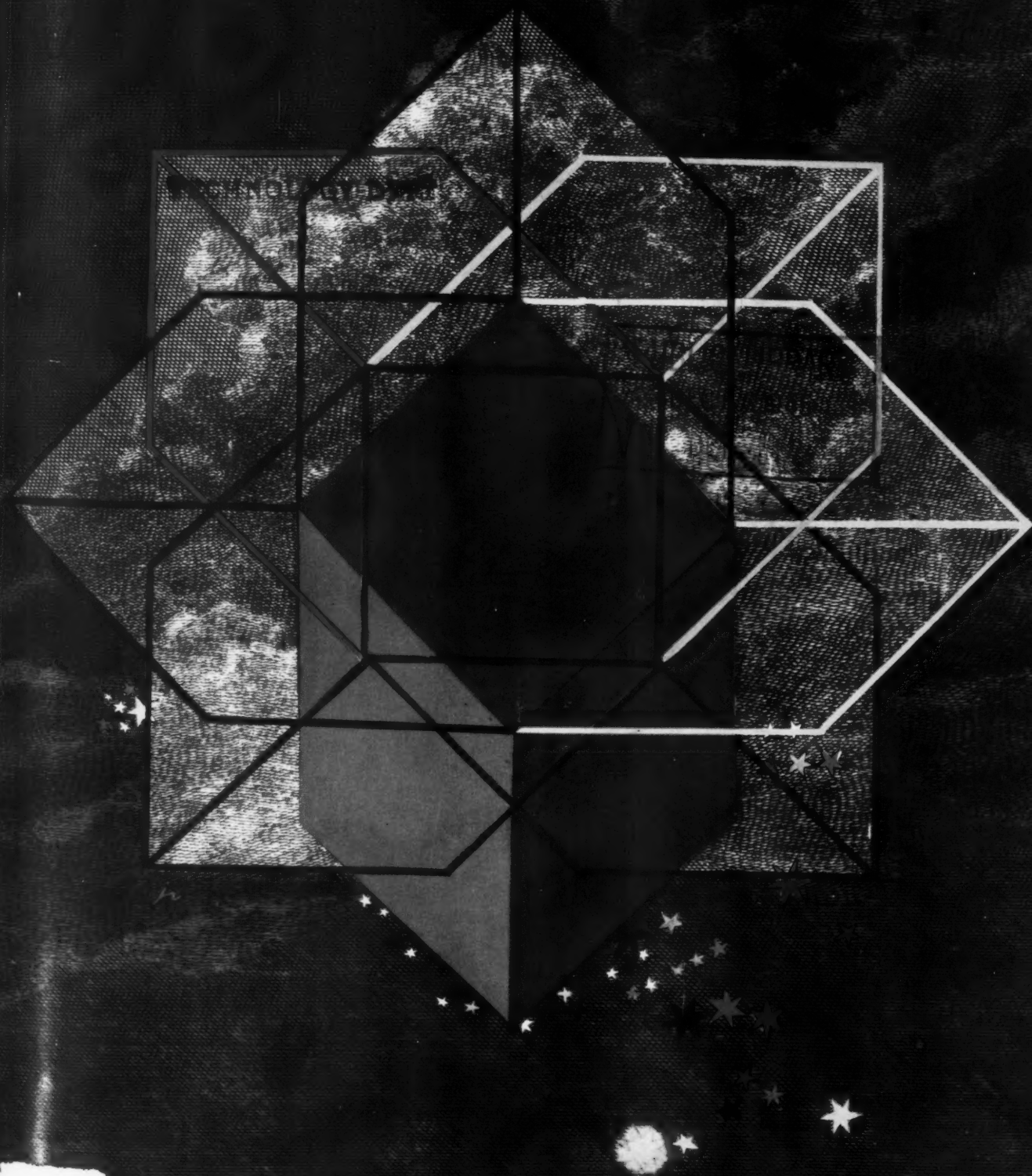



★ MODERN PACKAGING

December

1945





WHEN
AN ADHESIVE
MUST BE

FLEXIBLE
IN USE

Rely on National... with its long practiced, specialized skill... to provide a bond of permanent flexibility.

Let's examine the flexible lifetime of a postwar coffee bag. Laminated of rolled multi-ply stock... fabricated into a flat bag... opened for filling... closed, sealed and nested tightly in shipping cases... handled by clerk and customer... reopened for home use... rolled down after each serving... then discarded only after it has successfully protected the flavor of its contents while withstanding every test of its flexibility.

Now what about rigid containers? Cover hinges must be flexible on cigar, cigarette, perfume, stationery boxes, etc. The glued paper or fabric hinge must... withstand repeated openings... carry the weight of the cover... resist

cracking on opening or pulling away from the box surface — all, with the help of an adhesive film that is permanently flexible.

What is your flexibility problem? A book cover or ring binder? A roller shade or lounge slipper? A powder puff or disposable diaper? A leather belt or pocketbook?

Whatever the application, you can safely rely on National — with its expert knowledge of the mechanical and chemical requirements of every type of adhesion — to provide a bond of permanent flexibility. Submit your specific problem to National — NOW!

Offices: 270 Madison Avenue, New York 16; 3641 So. Washtenaw Avenue, Chicago 32; 735 Battery Street, San Francisco 11, and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto and Montreal. In England: National Adhesives Ltd., Slough, Bucks.

National
ADHESIVES

EVERY TYPE OF ADHESIVE FOR EVERY TYPE OF ADHESION

TECHNOLOGY DEPT.



Merry Christmas, Happy New Year! This old familiar greeting is the essence of good will—a handclasp in type. There may be newer ways of extending friendly wishes, but none better. Merry Christmas! Happy New Year! Phoenix Metal Cap Co., Chicago 8 and Brooklyn 18.

58

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MODERN PACKAGING

VOLUME 19

DECEMBER 1945

NUMBER 4

★ ★ ★

Special

PACKAGING INSTITUTE ANNUAL MEETING.....129-144
A 16-page summary of proceedings at New York conference

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COVER—Once a year we have a cover which has nothing to do with packaging—but is a symbol of our good wishes to you for a Merry Christmas and a Happy New Year. In this case, we gave Peter Piening free rein. What came forth is his way of conveying our good wishes in abstract, modern design.

Only Quality can truly reflect quality!

Do your products look their best for that all-important date with the consumer? Make sure the quality products you pack are seen and appreciated—with all their colorful eye and appetite appeal—send them to market in clear, clean inviting Anchorglass packages!

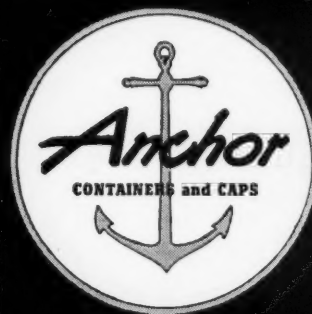
Shoppers everywhere have learned to associate glass packaging with top quality merchandise. There's a right combination of light, strong Anchorglass container and dependable Anchor Cap to help you take best advantage of this merchandising trend.

Let us help you plan your new package or improve the ones you have. Private glass show cases will emphasize and enhance the quality of your products—make them easy to use—and keep them pure and fresh to the last bit!

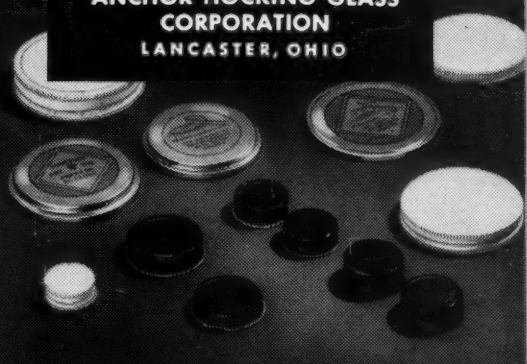
Write today for package engineering service.



Hear how Anchor Hocking is educating millions of your customers and retailers every week to the advantages of modern glass packaging—Tune in "Hobby Lobby" every Thursday evening, entire Coast-to-Coast Network, CBS.

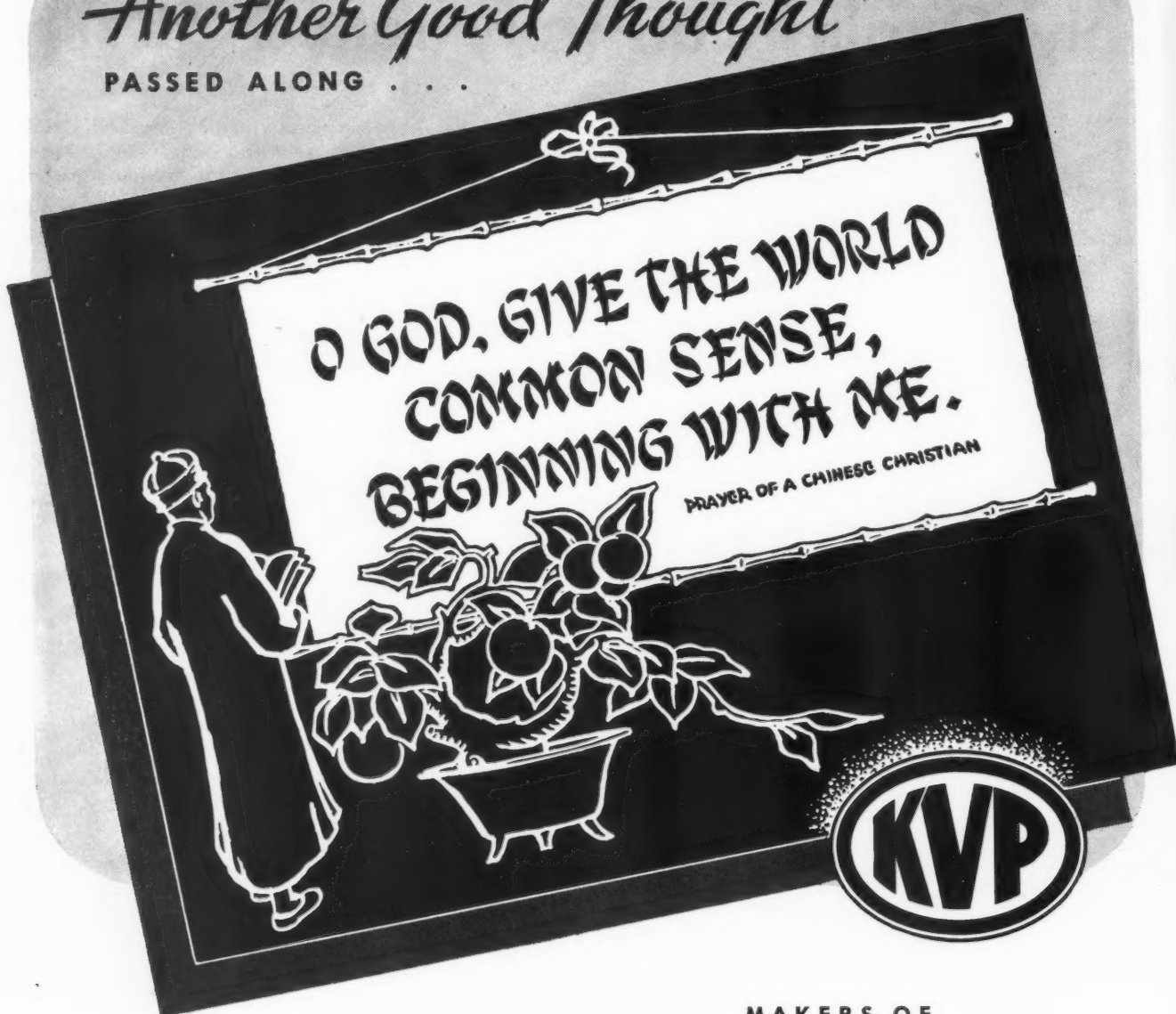


PRODUCTS OF
ANCHOR HOCKING GLASS
CORPORATION
LANCASTER, OHIO



Another Good Thought

PASSED ALONG . . .



MAKERS OF

FOOD PROTECTION PAPERS



GENUINE VEGETABLE PARCHMENT
SPECIAL TREATED . . .
GREASEPROOF . . .
WAXED . . .

"THE WORLD'S MODEL PAPER MILL"

**KALAMAZOO VEGETABLE
PARCHMENT COMPANY**

PARCHMENT . KALAMAZOO 99 . MICH.
BRANCH PLANTS IN HOUSTON, TEXAS
AND PHILADELPHIA, PENNSYLVANIA



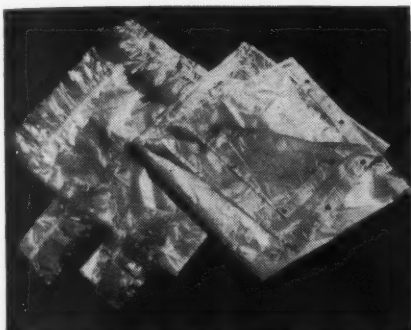
● COATED PAPER



● COATED CORD



● RAINWEAR



● SHOWER AND WINDOW CURTAINS

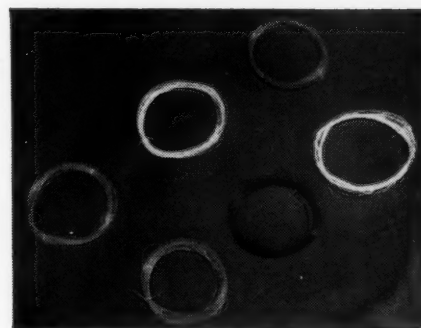


● WIRE INSULATION



● COATED FABRIC

These are typical applications for Geon Latex



● COATED SILK AND NYLON THREAD

Water-borne polyvinyl resins provide safer, simpler processing methods

These finished products indicate the variety of articles that can be made using GEON latex as one of the basic raw materials. For example, thin coatings of GEON latex can be applied to fabric, leather, paper, fibre, thread, wire, or any other material to which coatings can be applied by conventional methods.

Suitably formulated, GEON latex—a water dispersion containing approximately 50% vinyl resin—can be used on standard processing equipment. Being a water system, GEON latex offers many ad-

vantages not to be found in solvent systems—simplicity and economy of processing—no danger of toxic vapors, or explosion—elimination of expensive, cumbersome solvent recovery systems. Highly stable, GEON latex is *not* rubber and contains no rubber.

GEON latex is not a "miracle material" that will do away with other coating methods. Yet already there is evidence that it will open entire new fields in the manufacture of coatings, sheet, and film. For more information write Dept. LL-12, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, Ohio.



B. F. Goodrich Chemical Company

A DIVISION OF
THE B. F. GOODRICH COMPANY

DECEMBER • 1945

7



Freshness that's packed for travel

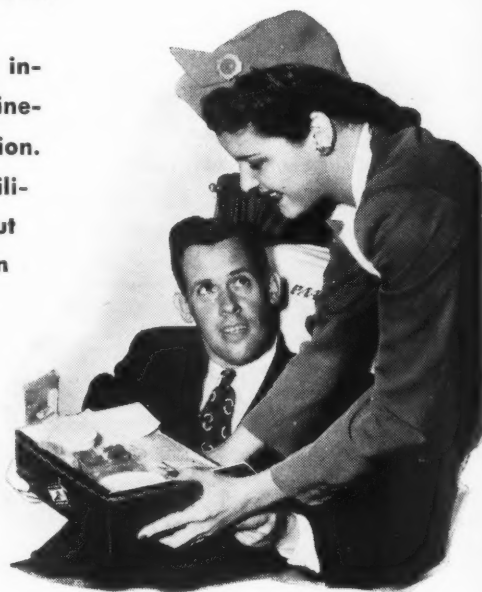
● A mile up on the Alaska route or over the humid jungles of South America, Pan American World Airways' passengers enjoy meals kept fresh and appealing in Dobeckmun cellophane bags. Even the silver service is individually cellophane-wrapped to carry out the "public be pleased" attitude.

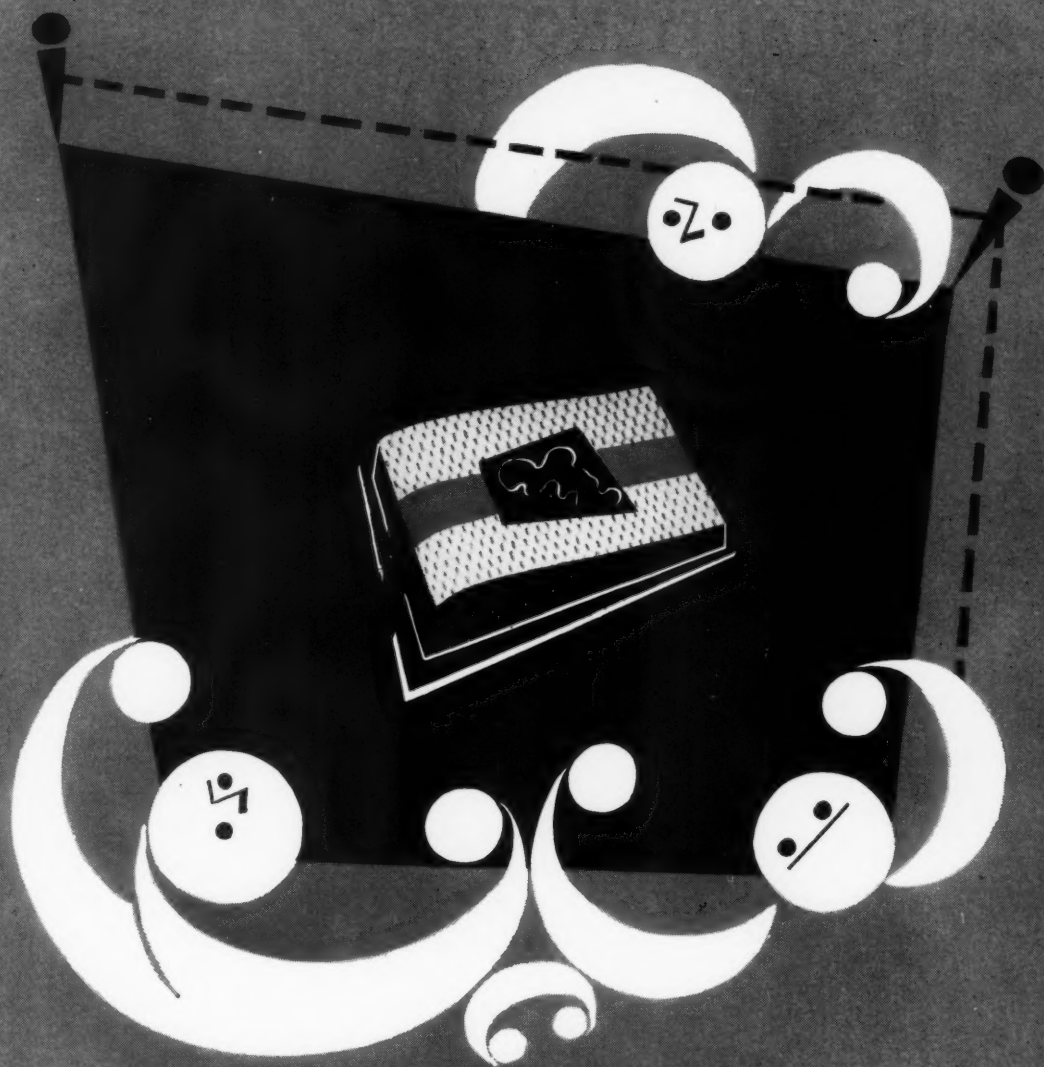
Such smart packaging adds a touch of good will and customer comfort to the important job of protecting traveling foods—on plane trips or on the long haul from plant to platter.

Other air-tight, moisture-tight, odor-proof Dobeckmun packages include "Tritect" laminated cellophane bags, attractively printed machine-applied film overwraps, and "Metalam" laminated foil for extra protection.

For tested packaging ideas, Dobeckmun technical and research facilities are at your service. Write for samples and suggestions without obligation. The Dobeckmun Company, Cleveland 1, Ohio. Branches in Boston, Chicago, Cincinnati, Los Angeles, New York, Philadelphia, San Francisco and Seattle. Representatives everywhere.

DOBECKMUN
SELF-SELLING PACKAGES IN PROCESSED FILMS AND FOILS





smart boxing gets a rousing response

Forward-looking manufacturers are basing their plans now on the back-to-normal market of the future. They're looking ahead to the day when salesmen will meet sales-resistance—when the fight for orders will be on again and boxing will be a prime consideration for sales.

Arrow designs—in metal, plastic, wood or cardboard, with coverings of velvet, leather, leatherette and fabric can help your product meet the coming market challenge. Plan your boxing now.

Arrow is proud that its wartime production record in supplying boxes which hold the medals for the heroes of our Armed Forces is now nearing the 2,000,000 mark.

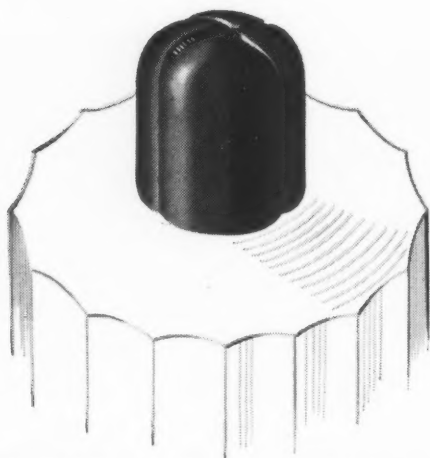


Arrow

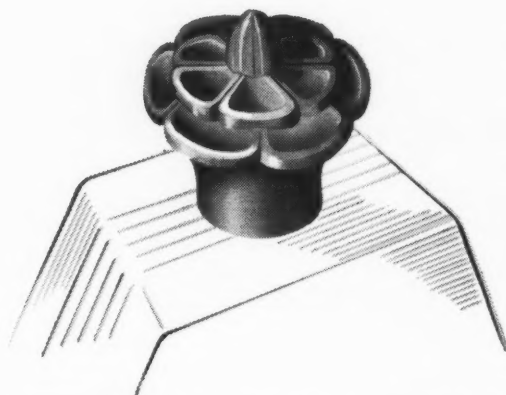
boxes and displays

ARROW MANUFACTURING COMPANY, INC. • FIFTEENTH AND HUDSON STREETS • HOBOKEN, N. J.

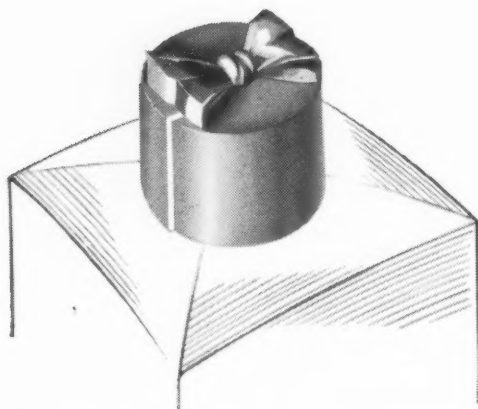
STYLE AND BEAUTY NOTES FOR YOUR PRIVATE MOLD CAPS



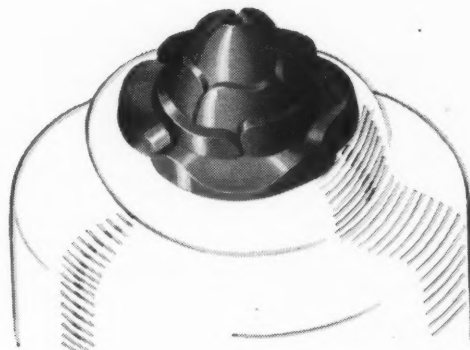
ACCENTUATE the characteristic features of your package with an appropriate Artmold Cap. It can help your package look taller, shorter . . . more glamorous.



DESIGNS can be distinctive and highly individualized, too. The right Artmold Cap design can give your package sales-building style and beauty.



UNLIMITED possibilities in cameo designs are available on Artmold Caps. Let Armstrong show you design suggestions tailored to the personality of your package.



YOUR OWN exclusive sculptured design on an Artmold Cap lends permanent beauty and customer-building distinction to your "luxury trade" packages.



YOU CAN ADD extra style and beauty to your packages, give them the eye-catching individuality they'll need to compete successfully in today's markets, with tastefully designed Armstrong's Artmold Caps. Get free design suggestions today, by sending a sample drawing of your package to Armstrong Cork Company, Glass and Closure Division, 5912 Prince Street, Lancaster, Pennsylvania.





Lustrous and Beautiful as Christmas

Champion Kromekote

Attractive design and lustrous Champion Kromekote can make your packages as bright and colorful as tree and ornaments, as inviting and intriguing as Christmas packages. The attractiveness of Champion Kromekote helps gain that all-important first impression which makes sales. That is why this exclusive patented paper for box wrap and labels has become a favorite setting for quality products such as jewelry, pen sets, perfume, candy, stationery, cosmetics. Investigate Champion Kromekote for your own packages. Also consider the other Kromekote grades for unusual effects in menus, catalogue and brochure covers, French folds, inserts and labels. Champion Kromekote is beautiful . . . and practical!

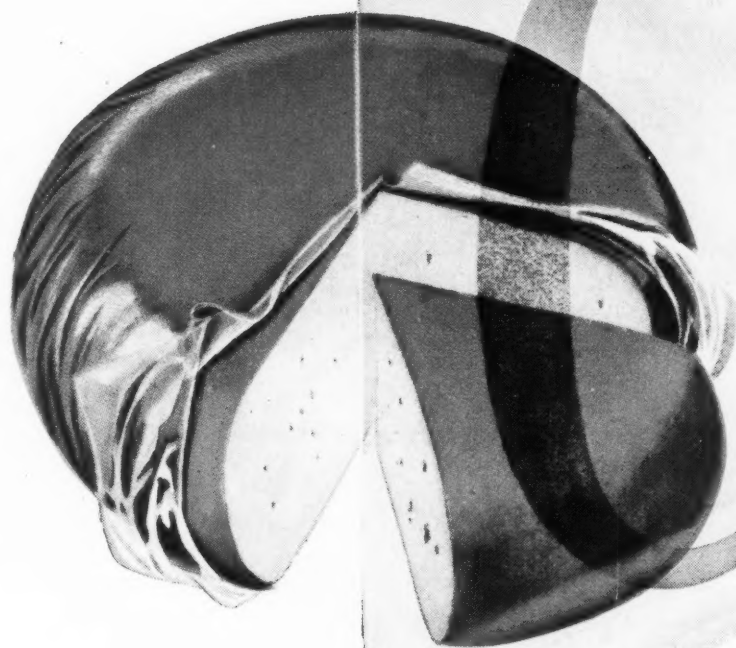
THE CHAMPION PAPER AND FIBRE CO. . . HAMILTON, OHIO



8

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PRIMER OF PERFECT PROTECTION



is for Cheese

kept fresh, moist and tangy
in **PLIOFILM** — because it seals
moisture *in*!

and Crackers, too



kept crisp, crunchy and
flavorful in **PLIOFILM** — be-
cause it seals moisture *out*!

You'll sell fine foods at a new peak of freshness and flavor just as soon as they can be packaged in **PLIOFILM** — for a double-barreled reason. ★ This transparent, air-vapor-proof wrapping has no equal for keeping moisture where it belongs — *inside or out*! ★ Best proof of that is the way **PLIOFILM** measured up to the job of moisture-protecting American warplane engines. ★ That is why none has been available for bringing harvest-ripe fruits and vegetables to American tables; for safeguarding tobaccos, drugs and all moisture-sensitive products. ★ But it's coming back, and alert merchandisers everywhere are planning now to **PLIOFILM** seal their wares — to assure the finest quality ever known. Goodyear, Chemical Products Division, Pliofilm Department, Akron 16, Ohio.

Pliofilm
A PRODUCT OF GOODYEAR RESEARCH



Pliofilm—T. M. The Goodyear Tire & Rubber Company

A MAN
*is judged by
 the company
 he keeps!*



A MAN is judged by the company he keeps. And so a company is judged by the companies it services. Take Trans-Pac, for instance, and scan its roster of important clients. We're proud to service organizations like these. Proud to have them endorse our own high standards by letting us package their products!

Soon many new and superior packaging materials will be available. Whether it's pliofilm or glassine lamination, we can plan your package needs now. In addition to our own staff, we also work closely with the engineering and research divisions of the leading manufacturers of packaging supplies.

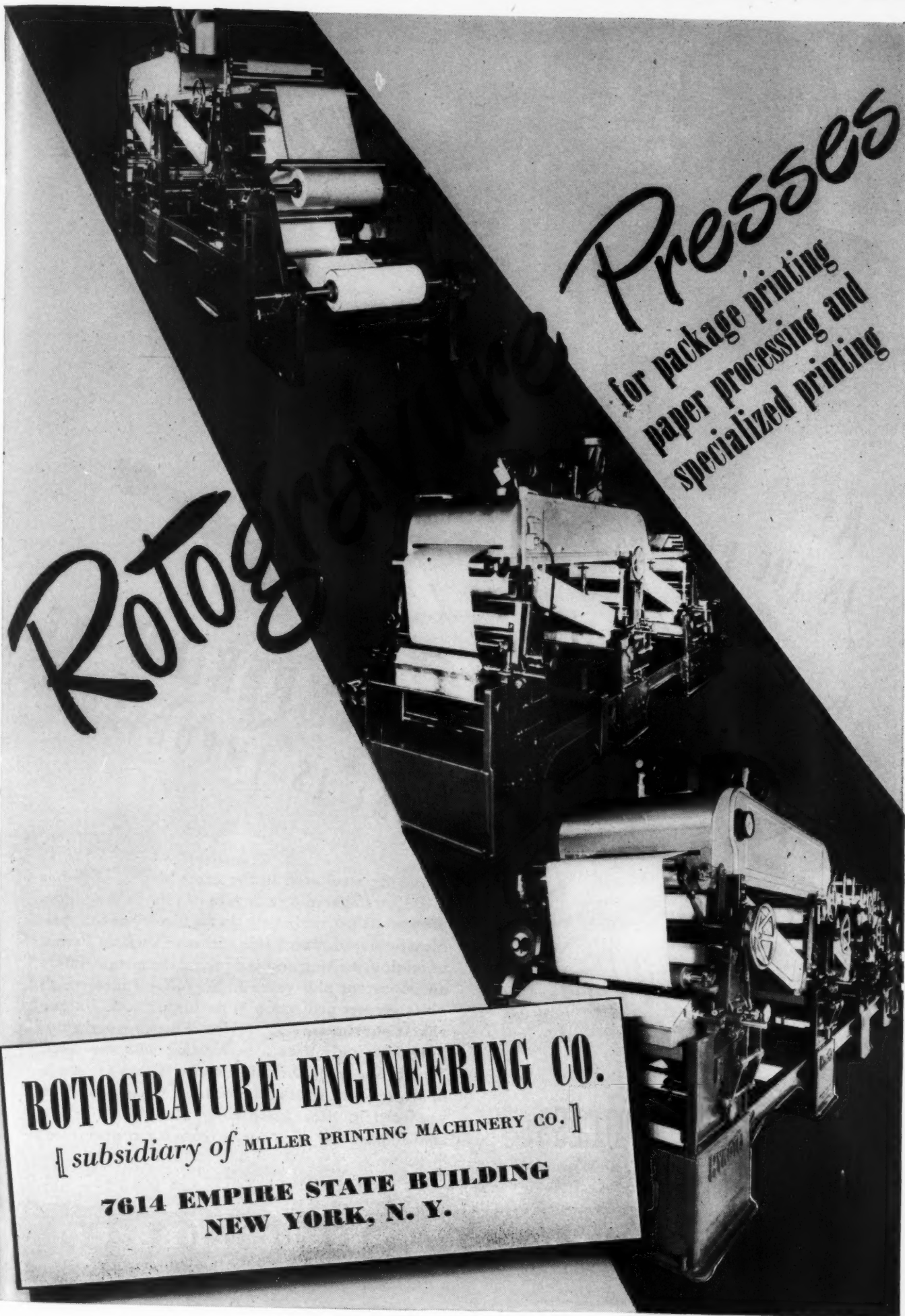
Our long experience dealing with diversified products enables us to supply the best in modern packaging. Post-war packaging plans can formulate, however, only as soon as facilities are available. Until that time, we should be pleased to advise you on your particular packaging needs.

TRANS-PAC SERVICES, INC.
PACKAGES PRODUCTS
 for the following organizations:

EASTMAN KODAK CO.
 CAMPBELL'S SOUP CO.
 J. C. ENO, INC.
 BLOCK DRUG CO., INC.
 CHEF BOY-AR-DEE, INC.
 FOSTER MILBURN CO.
 THE NORWICH PHARMACAL CO.
 LEADER NOVELTY CANDY CO., INC.
 GENERAL MILLS, INC.
 C. J. VAN HOUTEN & ZOON, INC.
 THE ANACIN CO. "WHITEHALL"
 CARTER PRODUCTS, INC.
 BREAKSTONE BROS., INC.
 MARLON CONFECTIONS CO.
 JOHNSON & JOHNSON INTERNATIONAL
 WALLACE & TIERNAN CO., INC.
 HUMPHREY'S MEDICINE COMPANY
 DR. D. JAYNE & SON, INC.
 KORAL LABORATORIES, INC.
 THE ARNER CO., INC.
 THE KNOX CO.
 DORSET FOODS, LTD.
 CONFECTION CABINET CORP.
 AMERICAN DIETETICS CO., INC.
 UNION FOODS PRODUCTS COMPANY
 ROMANOFF CAVIAR COMPANY

TRANS-PAC SERVICES, INC.

602 WEST 52ND STREET, NEW YORK 19, N. Y.



Rotogravure Presses

for package printing
paper processing and
specialized printing

ROTOGRAVURE ENGINEERING CO.
[subsidiary of MILLER PRINTING MACHINERY CO.]
**7614 EMPIRE STATE BUILDING
NEW YORK, N. Y.**



AGING IS NOT A FACTOR
IN THE PROCESSING OF TUBE METAL..

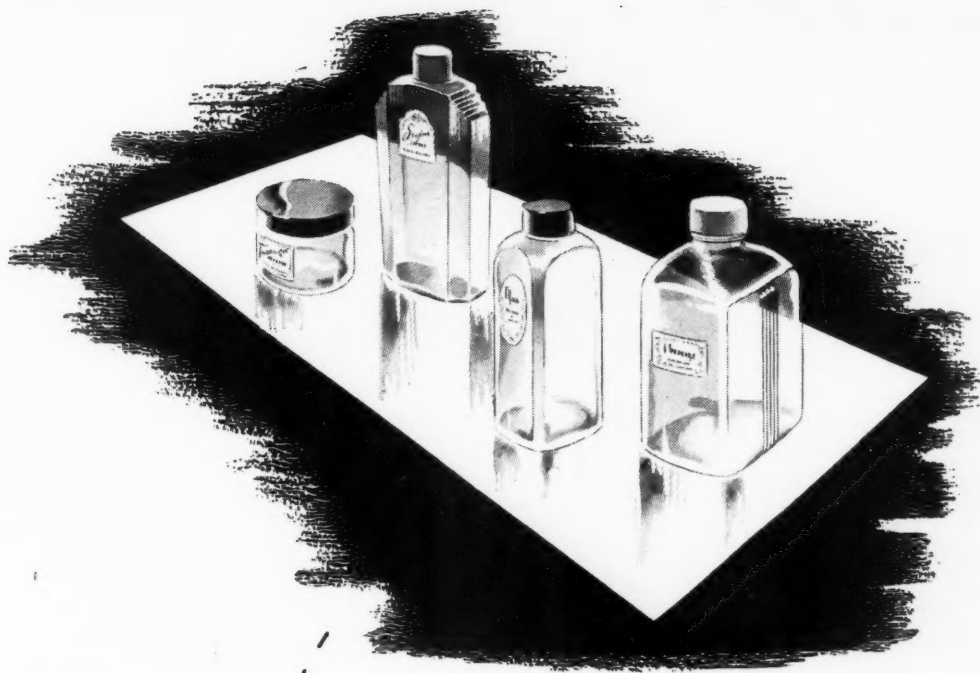
BUT..TEMPERING THE
METAL IS IMPORTANT!

LIKE the steel used in the finest blades, *Sheffalloy* metal is tempered to a degree of pliable toughness unapproached, we believe, in the history of collapsible tube manufacture! This exclusive *Sheffield Process* of mixing, melting and tempering the metals, offers an important plus value in *Sheffalloy* Tubes which gives greater protection at no higher cost. Unique also is our time-saving service of making and shipping fine folding cartons *together with the tubes!* Tough, *Sheffalloy* Sheffield Process Tubes are made in all standard sizes and openings. Decorations are produced in clear, crisp colors, by skilled craftsmen. Please call our nearest office for cooperation.

Sheffalloy
TRADE MARK REGISTERED
**SHEFFIELD PROCESS
TUBES**

NEW ENGLAND COLLAPSIBLE TUBE CO.

3132 S. CANAL STREET, CHICAGO 16 • NEW LONDON, CONN. • W. K. SHEFFIELD, V. P., 500 FIFTH AVENUE, NEW YORK 18
THE WILCO COMPANY, 6800 MCKINLEY AVE., LOS ANGELES 1



Smart Designs for Selling

PACK TO ATTRACT IN

Maryland Glass



MARYLAND GLASS CORPORATION, BALTIMORE 30... 270 BROADWAY,
NEW YORK 7... BERMAN BROS., INC., 1501 S. LAFLIN ST., CHICAGO 8
... J. E. McLAUGHLIN, 401 LOCK ST., CINCINNATI 2... ALLER TODD,
1224 UNION AVE., KANSAS CITY 7... S. WALTER SCOTT, 608 McCALL
BLDG., MEMPHIS 3... H. A. BAUMSTARK, 4030 CHOUTEAU AVE., ST.
LOUIS 10... OWENS-ILLINOIS GLASS CO., PACIFIC COAST DIVISION,
135 STOCKTON ST., SAN FRANCISCO 19.

BREAKING THE ICE



8:00—*You meet such interesting people...hah!*



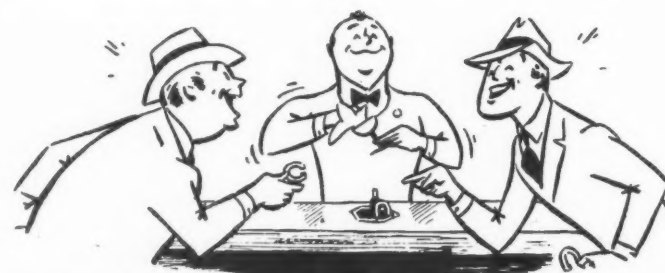
8:30—*Just like working in the morgue, it is...*



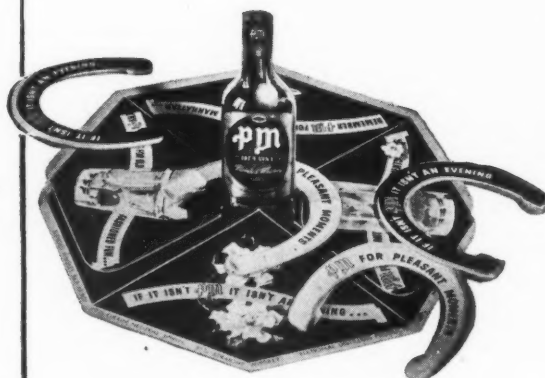
9:00—*It's monotony kills men before their time.*



9:01—*So what have I got to lose?...Here goes—*



9:05—*Sure I wouldn't be in any other business!*



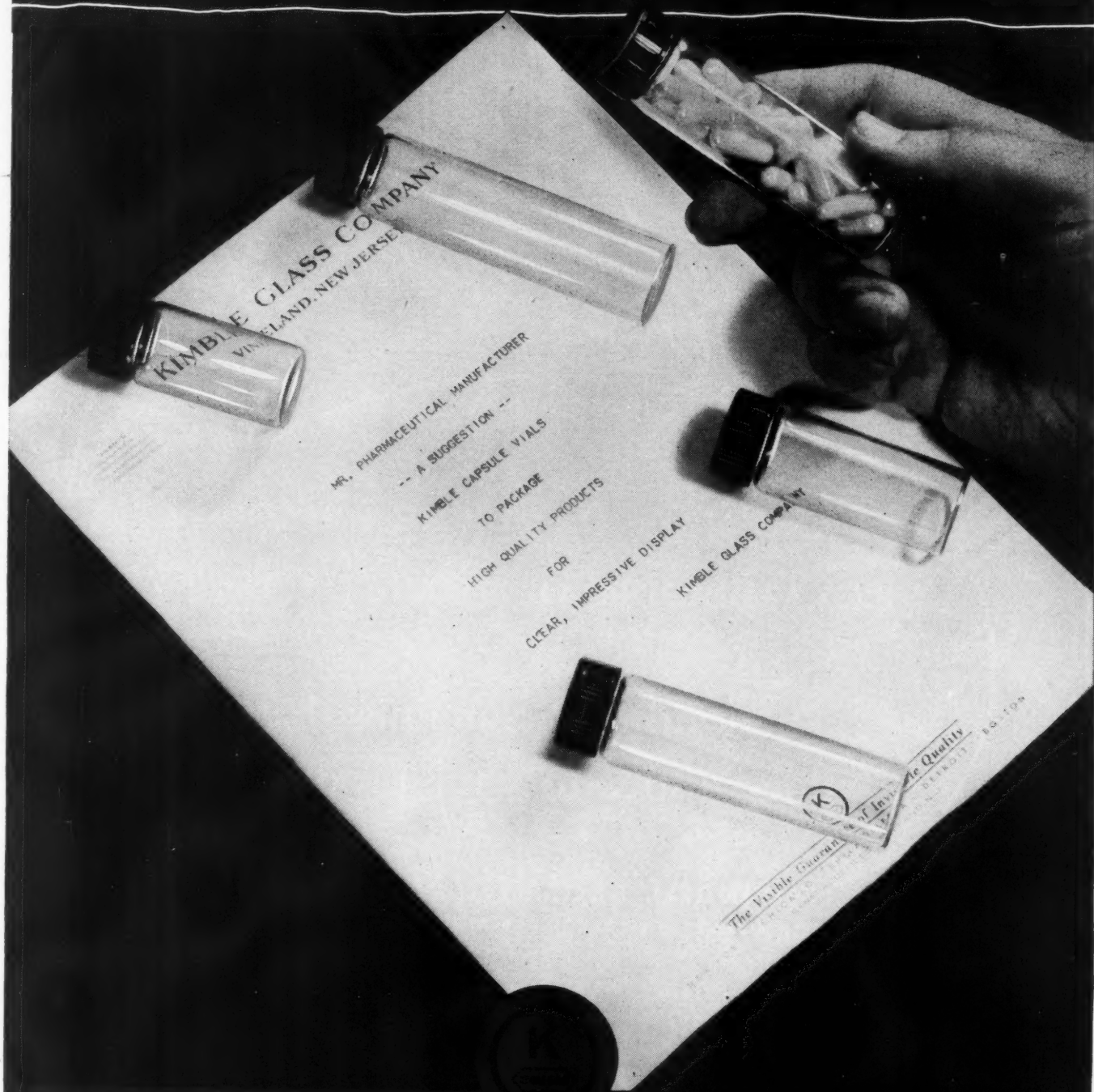
PM . . . the whiskey that hitched its wagon to a gardenia . . . "If it isn't PM, it isn't an evening" . . . now promotes its own slogan with **PITCH ME**, a finger-exercise horseshoes game on elbow room scale . . . Calling for skill rather than IQ, **PITCH ME** pleases both the bar trade and the bartenders, provides a better basis for preference of brand *and* place, does not prejudice the sale of PM in any way whatsoever! . . . Printed flat, easy to pack and assemble, **PITCH ME** is low in cost, potent in promotion value . . . Another instance of idea importance, and another invention of Einson-Freeman, who believe that getting customers for you is the best method of getting customers for them . . . If you'd like a **PITCH ME**, write for sample.

Einson-Freeman Co., Inc.

Sales-thru-laughter Lithographers

STARR & BORDEN AVENUES
LONG ISLAND CITY 1, NEW YORK

Kimble GLASS Vials



• • • *The Visible Guarantee of Invisible Quality* • • •

KIMBLE GLASS COMPANY • • • VINELAND, N. J.
NEW YORK • CHICAGO • PHILADELPHIA • DETROIT • BOSTON • INDIANAPOLIS • SAN FRANCISCO

When you think of
BOTTLES
think of Swindell

HAND MADE OR MACHINE MADE
PRIVATE MOULD OR STOCK BOTTLES

The kind of a container that
does justice to your product

SWINDELL BROS., BALTIMORE 30, MD.
200 FIFTH AVENUE, NEW YORK • ROBERTO ORTIZ—HAVANA, CUBA

Swindell

Complement to Loveliness



Pond's picked a BEETLE* plastic package for their new "Make-up Pat." Why? Here was color to carry out design ideas. Smooth, velvety texture to please feminine fancy. Light weight for handling and carrying. Surface that wouldn't mar or scratch. Chemical inertness to protect a delicate cosmetic. All in all, a perfect package—in BEETLE plastic!

If you're looking for just such qualities in a packaging material, consult Cyanamid or your molder on colorful BEETLE. It can be readily adapted to your own product requirements. *Reg. U. S. Pat. Off.

Dainty BEETLE containers add sales appeal and customer satisfaction to "Make-up Pat," Pond's new cake foundation. The cases are molded by Waterbury Companies, Inc.

Cyanamid Plastics



Beetle Melmac Melurac
Laminac Urac

AMERICAN CYANAMID COMPANY • PLASTICS DIVISION • 30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

DECEMBER • 1945

21



All concerned—the shopper, the retailer, the manufacturer of the product—have good reason to endorse the advantages of Du Pont Cellophane packaging.

The shopper can choose with her eyes. That's the way she likes to buy. (In a survey made under normal peacetime conditions, 90.8% of the housewives questioned said they preferred transparent packaging.) The thrifty shopper will *look* for value—and she'll see it in Cellophane.

The retailer can get rapid turnover. He knows from experience how sparkling Du Pont Cellophane stimulates sales . . . how well it safeguards the freshness and flavor of products on his shelves.

The manufacturer secures packaging economy. Du Pont Cellophane helps cut distribution costs . . . permits more value to be passed on to the shopper. It gives genuine packaging economy—transparent protection at lowest cost.

Although the demand for Cellophane exceeds the supply, we hope that the day is not far off when

we can again fill all your requirements. In the meantime, write for the new booklet, "Help Yourself to Lower Distribution Costs," an analysis of the function of packaging in modern merchandising.

E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington 98, Delaware.

BUY BONDS REGULARLY

DU PONT Cellophane
REG. U.S. PAT. OFF.

Shows what it Protects—at Low Cost

BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

Dance of the Conquistadores, painted by
Carlos Mérida, native of Guatemala



GUATEMALA. Goods in modern packages supply this ancient civilization. Paperboard plays an important part in the shipping picture. When shortages are relieved, we will be glad to help you apply many new techniques to your post-war packaging program.

**CONTAINER CORPORATION
OF AMERICA**
CHICAGO AND 22 OTHER CITIES
SAVE WASTE PAPER



they Huff and they Puff ...

MOISTURE
ruins
texture

AIR...destroys
freshness

LIGHT spoils aroma
and flavor

CHOCOLATE BAR

but Nothing Happens!

Reynolds Foil is a positive barrier
to these three destructive elements



Now that Reynolds Foil is increasingly available for civilian use, most of America's famous brands—candy, cigarettes, gum and foods are returning to foil-wrapped packages... the sure way to preserve freshness and flavor.

If you want to keep moisture *in*—aluminum foil will do it. If you want to keep moisture *out*—foil will do that too! Consult Reynolds—the world's largest rollers of foil.

Foil is light proof! Since light causes rancidity, many foods need foil's light-proof protection. Reynolds' wide experience with laminations, gauges, combinations of materials and four-color gravure printing is available for *your* product.

Rare, exotic flowers and fruits can now be flown from distant lands... and arrive fresh in temperature-proof Reynolds Frigichests. The Frigichest is double-lined inside with Reynolds Foil—another example of Reynolds Research in packaging.



Reynolds, for 25 years the resourceful and progressive leader in metal foil packaging, is now perfecting many new, revolutionary protective packages—new ways for Reynolds Foil to keep things fresher. Consider foil—consult Reynolds. Write Reynolds Metals Co., Richmond 19, Va.

REYNOLDS FOIL

PURE ALUMINUM

THE FRESH-FLAVOR WRAP



4 BLUE RIBBON AWARDS to **STOKES & SMITH CO**



Recognition in a recent national Food Packaging Show by the judges . . . who selected for blue ribbon awards four containers filled by S & S machines . . . brings us the feeling of satisfaction that comes with realization of a job well done.

We are not in business primarily to turn out prize winners, but we do think we have a line of efficient machinery, geared to high speed production, for filling practically any kind of container, with almost any kind of material.

The prize winning containers...Durkee's Allspice, Hamstra's Dutch Process Cocoa, Maillard's Breakfast Cocoa and Great Star Soluble Coffee Co.'s Sol Café . . . are representative of nationally known products, a goodly percentage of which are filled, packaged or wrapped by S & S machines.

During the war our entire output was under priority regulations. Today we are bending every effort toward turning out machines to fill the flood of orders released by the sudden end of hostilities. We shall be glad to take care of your order as soon as possible, and remember . . . an S & S machine is worth waiting for.

Illustrated here . . . the Model HG 84 Automatic Duplex filling machine which *automatically* fills containers with the desired amount of product.

Firms planning to package new products or looking for better, more economical packaging methods for their present lines, are invited to consult us. Our engineering staff is always available to help in the solution of your problems.

STOKES & SMITH CO

FRANKFORD, PHILADELPHIA 24, PENNA.

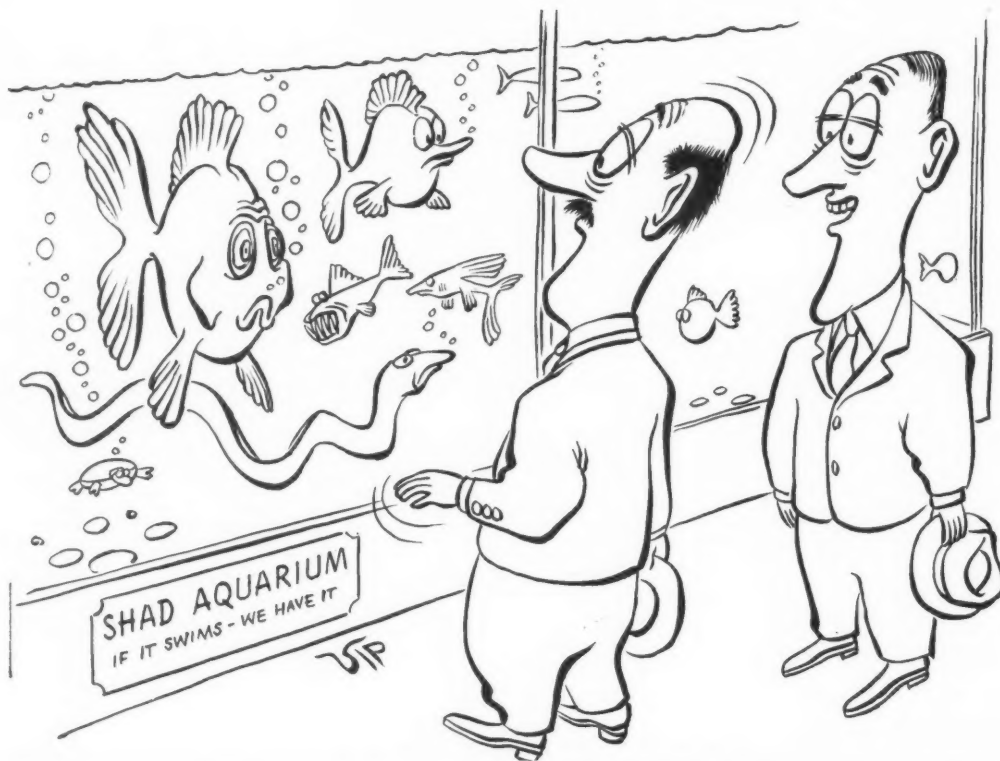
FILLING • PACKAGING • WRAPPING MACHINES

Speeds to suit your needs — 15 • 30 • 60 • 120 per minute

BETTER MACHINES FOR BETTER PACKAGES



"That reminds me,
Swift makes all kinds of adhesives!"



SWIFT MAKES ALL ADHESIVES

Dextrine Adhesives • Dry Animal Glue
Liquid Animal Glue • Flexible Animal Glue • Pastes
Rubber Emulsions • Synthetic Resin Emulsions

For all uses, including:

Bottle labeling • Can labeling • Carton sealing • Case sealing
Flexible coatings • Folding boxes • Laminating
Leather goods • Loose-leaf binders • Magazine coverings
Mountings • Padding • Paper sizings • Remoistening
Set-up boxes • Tube winding • Woodworking — many others

SWIFT & COMPANY
GLUE DEPARTMENT
Chicago 9, Illinois

And that reminds *us*, you may now order for your toughest and highest speed jobs, Swift's 1197 Adhesive — a synthetic resin "war" adhesive newly released for civilian use.

It's the fastest setting cold adhesive obtainable. Recommended for cartons, top and bottom sealing, tubes, laminating, and almost any other fiber board or paper work.

Swift's 1197 Adhesive is chalk white, highly fluid, moisture resistant, strong and absolutely non-crystallizing. It machines beautifully, is mold-proof, vermin-proof, bacteria-proof. Adheres to practically every surface and is unaffected by cold or heat.

Send for ten gallons at the fifty-gallon drum price of 26 cents a pound (slightly higher on Pacific Coast and in Canada), returnable at our expense if it doesn't do your job perfectly.

Write us for recommendations for ANY sticking job

Put your product in the spotlight



Even though your product is on that shelf, that's no guarantee it's getting the most attention from your customers. But, you can put your product in the spotlight by using . . .



SYNTRON High Gloss Coatings

You have seen SYNTRON HIGH GLOSS COATINGS on innumerable nationally-known products . . . on some of the foremost brands of perfumes, cosmetics, foods, etc. For not only do SYNTRON HIGH GLOSS COATINGS add glamour and buy-appeal to products . . . not only do they eliminate the need for laminated cellophane or for wrapping packages in cellophane to give them protection and sparkling attractiveness, but SYNTRON HIGH GLOSS COATINGS are also (1) ALCOHOL PROOF; (2) GREASE, OIL, ALKALI and ACID RESISTANT; and (3) HEAT-SEALABLE. SYNTRON HIGH GLOSS COATINGS are now available for you and your product. They are just some of the many SYNTRON coatings developed by the Gordon-Lacey Research Laboratories for use on paper, wood, plastic, fabric, metal, etc. SYNTRON coatings can be formulated to include the exact properties that you need for your product. Remember, SYNTRON is custom-made to fit your individual needs.

Write for full information concerning your coating problem. Names of coaters using SYNTRON HIGH GLOSS and other SYNTRON Coatings supplied on request.

GORDON-LACEY CHEMICAL PRODUCTS CO.

57-02 48th STREET • MASPETH, NEW YORK



*TRADE MARK



PICTURES TALK



on Coated Lithwite Cartons!

THEY COME UP WITH SHARPER REALISM—GIVE PACKAGES A MORE
PERSUASIVE POWER THAT SELLS MORE GOODS

WIDE-AWAKE EDITORS know it. Smart advertisers know it. Canny merchandisers know it, too. *Pictures get more attention, get ideas over faster than type or abstract designs.* And pictures on Coated Lithwite cartons really pack a wallop!

At the point of display—the most vital link in your sales chain—they speak right up and sell. For smooth, velvety Coated Lithwite cartons are made of a revolutionary paperboard that reproduces

pictures with brilliant and persuasive realism. And these crisper cartons have a quality look and feel that subtly influences shoppers.

When can you get Coated Lithwite cartons?

Sorry we can't give you a definite answer. Right now the Gardner-Richardson carton plants can't begin to meet immediate demands. But here's a suggestion: discuss the matter of future Coated Lithwite carton deliveries with a Gardner-Richardson sales representative, now.

NOTE THESE OUTSTANDING COATED LITHWITE ADVANTAGES

1. **Made by a revolutionary process.** Coated Lithwite is the brighter, whiter paperboard that is formed, made and coated in one high-speed operation. Proved and improved for six years.
2. **Means more eye-appealing cartons.** Coated Lithwite has a smooth, rub-resistant, chalk-

free surface. Forms a better base for printing inks and plates—reproduces even the smallest type cleanly, crisply. Brings colors up brilliantly—gives halftones a sharp realism.

3. **Fewer jammers and leakers.** Coated Lithwite scores without flaking or shattering. Takes a positive, tight seal.

The GARDNER-RICHARDSON Co.

Manufacturers of Folding Cartons and Boxboard

MIDDLETOWN, OHIO

Sales Representatives in Principal Cities: PHILADELPHIA • CLEVELAND • CHICAGO • ST. LOUIS • NEW YORK • BOSTON • PITTSBURGH • DETROIT

DECEMBER • 1945

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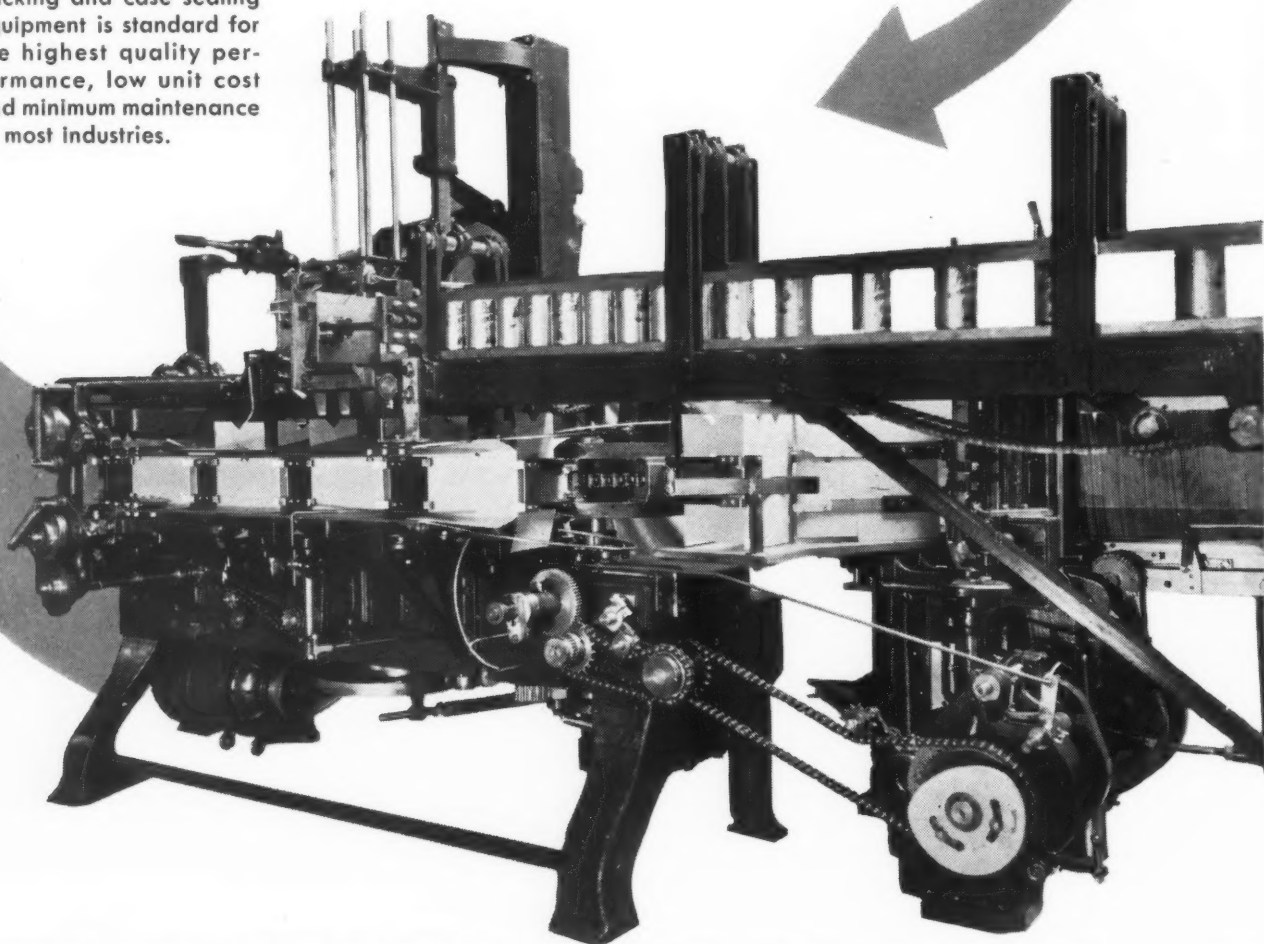
OPENS, PACKS, SEALS, DELIVERS!

This machine is one of Standard-Knapp's contributions to the art of automatic packaging.

There are two feeding stations. One accepts cans or glass jars or bottles; and the other takes flat cartons. As the packages move into the loading station, simultaneously the machine opens the cartons and sets them up. Once the cartons are filled, the machine automatically seals them and takes them on to any given point in the plant.

This is just one more example of Standard-Knapp machinery, of the art of designing and building packaging machines that do special jobs. Besides being completely functional, every Standard-Knapp machine is sturdily built of the finest materials and the most modern details of construction.

Standard-Knapp case packing and case sealing equipment is standard for the highest quality performance, low unit cost and minimum maintenance in most industries.



STANDARD-KNAPP CORP.

MANUFACTURERS OF CASE SEALING, CASE PACKAGING AND CAN LABELING MACHINES
FACTORY and GENERAL OFFICES—PORTLAND, CONNECTICUT

570 Lexington Avenue	221 North LaSalle St.	145 Public Square	300 Seventh Street
NEW YORK 22, N. Y.	CHICAGO 1, ILL.	CLEVELAND 14, OHIO	SAN FRANCISCO 3, CALIF.
420 S. San Pedro Street	3224 Western Avenue	1208 S. W. Yamhill Street	Paul Brown Building
LOS ANGELES 13, CALIF.	SEATTLE 99, WASH.	PORTLAND 5, OREGON	ST. LOUIS 1, MO
Windsor House, Victoria Street, LONDON, ENGLAND			



SPIRAL WOUND

Low Cost Transparent-Rigid Packaging, Using

LUMARITH^{*} FILM

THE TRANSPARENT CONTAINER gets attention. Here is an inexpensive way of getting transparency with protection for your product.

Lumarith spiral wound containers are ideal for merchandise of all kinds; golf clubs, spark plugs, fishing rods, tennis balls, cosmetics, model kits, bath towels, toys, games, confections, umbrellas, toothbrushes, leather belts...

Lumarith spiral wound containers are easily fabricated, with caps of transparent Lumarith,

cardboard or metal. Wall surfaces can be double or single depending upon the strength required.

The spiral wound container expedites factory inspection, gives merchandise complete protection during shelf life and delivers unsoiled and undamaged goods to final purchaser. Write for more information about this war proved packaging method. Celanese Plastics Corporation, a division of Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

*Reg. U. S. Pat. Off.

A CELANESE^{*} PLASTIC



*World's Largest manufacturers
of FIBRE and METAL containers*

AMERICAN CAN COMPANY

230 PARK AVE, NEW YORK 17, N.Y.



CHANCES are you've already started planning new products, or new packages for familiar products, for her.

For she's your postwar consumer—and she's expecting a lot from postwar merchandising and manufacture.

But in your effort to please her—don't overlook her other sides . . .

Her eyes and her purse . . .

Will your product be packaged to attract her attention? Will she reach for your package because it looks exciting and different?

And will your packaging and manufacturing methods keep your prices low enough for her budget?

Why not let us help?

In our wartime work for Uncle Sam we developed many interesting angles on packaging. We'd like to share them with you.

Besides this, our 44 years of packaging experience—and our extensive research facilities—are at your service. Finally, our wealth of experience in label design and lithographing is at your disposal.

Get in touch with our nearest representative today—or write to us direct.

Sav-Way Announces The Broadway Sara-Sealer



Yes, Broadway! It's *Broad* in its function as a heat sealing unit, and it is showing the *way* to a new efficiency in protective packaging—

Makes perfect lap seal

Ideal for fabrication

Flexible

Continuous

30-inch open throat

Table size: 36" x 52"

Variable speed: 12 feet to 48 feet per minute

Water-cooled shoes, immediately following heating zone

Seals all heat-sealable materials

The clean-cut modern outward appearance of the Broadway is in keeping with its mechanical efficiency.

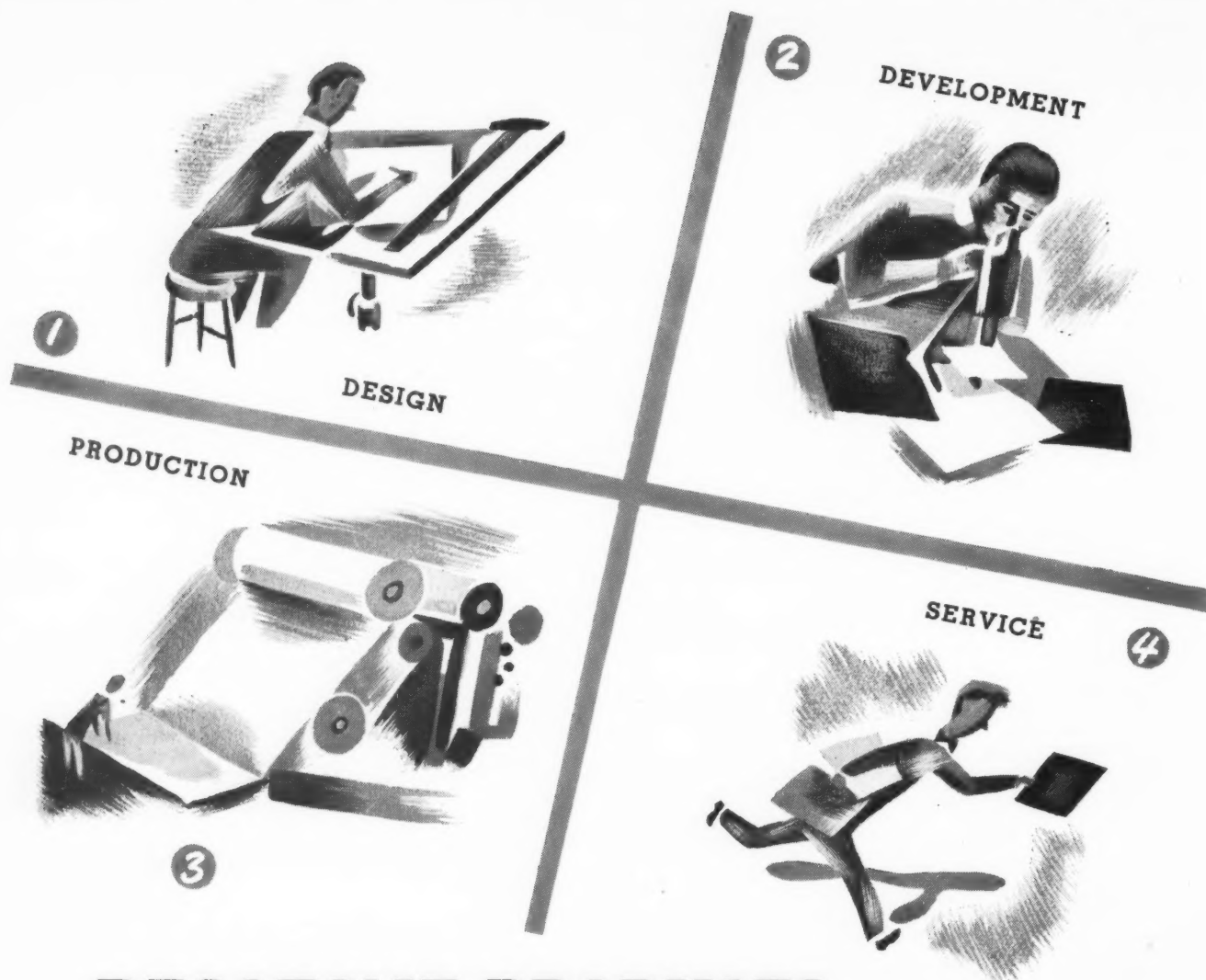
For technical consultation write, wire, or phone. We shall be glad to send a sales-engineer at your convenience or specifications will be furnished upon request.

Distributor Territories Open

SAV-WAY INDUSTRIES

BOX 117, HARPER STATION, DETROIT 13, MICHIGAN

Sav-Way



DECOTONE PRODUCTS DIVISION

Converters of  TRADE MARK PAPERS

NOT ONLY do we design and create decorative papers, but as a division of the Fitchburg Paper Company, we produce the base papers in our own mills. Thus we produce the completed product and control its quality and characteristics from beginning to end. You are invited to consult a Decotone specialty paper expert. Write today!

GREETING CARD PAPERS
 DECORATIVE PAPETRIES
 BOX WRAPS
 GIFT WRAPS
 FOIL

DECOTONE PRODUCTS

DIVISION

Fitchburg Paper Company

PACKAGING PAPERS *Converted Papers* SPECIALTY PAPERS
 FITCHBURG, MASS.

It's No Secret...

Beauty boosts sales!



Jinx Falkenburg
in "The Gay Senorita," a Columbia Picture



ON THE SCREEN the beauty of performers like Jinx Falkenburg increases box office sales for the motion picture industry.

OVER THE COUNTER the beauty of this artfully designed Gift Package wins sales for Max Factor.

THE PACKAGES that dealers prefer to display, and which most attract consumers, are those that effectively "stage" a product. That's the success secret of a Package by Ritchie. That's why—while solving practical problems of material, structure and cost—Ritchie always comes up with an outstandingly attractive, SELLING PACKAGE!

W. C. *Ritchie*
AND COMPANY

8851 Baltimore Avenue, Chicago 17

- SET-UP PAPER BOXES
- FIBRE CANS
- TRANSPARENT PACKAGES

★ **WAY TO A BETTER SELLING PACKAGE.** The Ritchie way integrates art and artisanship—to give you a better selling package at a low unit cost. A package that quickly, unmistakably identifies, fully protects and conveniently dispenses your product. A practical, production-planned package—easy to fill or pack, easy to handle, to stack and display—but *above all* designed for eye appeal, for quality-impression, for *beauty that sells!*

NEW YORK • DETROIT • LOS ANGELES • ST. LOUIS • MINNEAPOLIS

DECEMBER • 1945

35

FLEXIBLE PACKAGING

on parade



New and improved protection provided by custom-built containers fabricated from papers, films, coatings, laminants



IN THE HOUSING of a product, *protection according to need* is the first consideration.

Because so many of today's products are complex and sensitive to variable elements, they require packages that afford new measures of protection.

Members of the Flexible Packaging Institute are meeting these requirements with containers custom-built to specification, containers that improve and extend marketing efficiency.

Several of the Institute's packaging accomplishments are pictured on the opposite page. Others which combine protection, sales appeal, and moderate cost, are being perfected in collaboration with various industries.

If you are in need of a package that acts as a moisture-vapor barrier—if the flavor or vitamin content of your product must be maintained—if shipping weight is a factor—or if you are looking for a container of great physical durability—investigate flexible packaging. Simply write to the address below.

Allied Paper Bag Corporation, Baltimore, Md.
American Bag & Paper Co., Philadelphia, Pa.
The American Paper Goods Company,
Kensington, Conn. and Chicago, Ill.
Arkell & Smiths, New York, N. Y.
Arlette, Inc., Bloomfield, N. J.
Beier & Company, Chicago, Ill.
Bemis Bros. Bag Co., Indianapolis, Ind.
Benj. C. Betner Co., Devon, Pa.
Alfred Bleyer & Co., Brooklyn, N. Y.
Brown Paper Goods Co., Chicago, Ill.
Capital Envelope Co., Ltd., Los Angeles, Calif.
Central States Paper & Bag Co., St. Louis, Mo.
Central Waxed Paper Company, Chicago, Ill.
Cupples-Hesse Corporation, St. Louis, Missouri
Custom-Made Paper Bag Co., Long Island City, N. Y.
Diaphane Bag Corporation, Philadelphia, Pa.
Dixie Wax Paper Co.,
Memphis, Tenn. and Dallas, Texas
Duplex Coffee Bag Co., Glendale, N. Y.
The Jaite Company, Jaite, Ohio
Kehr Paper Products Co., Philadelphia, Pa.
Kellogg Container Division,
United States Envelope Co., Springfield, Mass.
Kennedy Car Liner and Bag Company, Inc.,
Shelbyville, Ind.
Marathon Corporation, Menasha, Wis.
Mehl Manufacturing Company, Cincinnati, Ohio
Milprint, Inc., Milwaukee, Wis.
Monoca Bag & Mfg. Co., Inc., Toledo, Ohio
Moser Bag & Paper Company, Cleveland, Ohio
Oneida Paper Products, Inc., New York, N. Y.
Orchard Paper Company, St. Louis, Mo.
Paramount Paper Products Co., Inc.,
Philadelphia, Pa.
Thomas M. Royal & Co., Philadelphia, Pa.
C. E. Stevens Bros. Inc., Baltimore, Md.
Union Bag & Paper Corporation, New York, N. Y.
Western Paper Converting Co., Salem, Oregon

FLEXIBLE PACKAGING INSTITUTE
369 Lexington Avenue * * * * * New York 17, N. Y.

FORMER P.F.C. MONOHAN
U.S.M.C., SIR, WOULD LIKE
TO TALK TO YOU ABOUT
YOUR PLANS FOR CANS

PFC Monohan, fresh out of the Marine Corps . . . is on the job again to talk to you about your "plans for cans." The entire Heekin organization . . . engineers, designers, color experts, metallurgists, pressmen and salesmen are available to talk over your Problems and your Plans so that when the day comes for delivering cans, your production line can go forward without a moment's delay. Let's talk it over.



Specialists in Metal Packaging
ANY SHAPE · ANY SIZE · ANY COLOR · ANY QUANTITY

HEEKIN CANS

THE HEEKIN CAN CO., CINCINNATI 2, OHIO

well
by a
Pac
dev
in s
It is
is p
atte
disp
to c
Mil
that
toda
MIL
★ SA
FRANC
LAND

TODAY'S
*Merchandising Trends**

1. **self-service**
2. **convenience**
3. **brand emphasis**
4. **protection**
5. **informative labeling**

* Based on authoritative surveys of both consumer and retailer preferences.

Self-service stores want it Packaged!



The swiftly moving trend toward self-service in retail food stores, as well as in many other type stores is recognized by all who are familiar with present-day merchandising.

Packaging has been the very essence of this development and will continue to be the major factor in self-service stores.

It is, therefore, imperative that your product is packaged to compete for consumer attention with all the color, eye-appeal, and display value it needs to do a SELF SELLING job.

Milprint specializes in designing packages that LEAD THE TRENDS. Consult us today — for better sales with better packages.

MILPRINT, INC., MAIN OFFICES - MILWAUKEE, WIS.

★ SALES OFFICES AT • NEW YORK • CHICAGO • BOSTON • SAN FRANCISCO • PHILADELPHIA • GRAND RAPIDS • LOS ANGELES • CLEVELAND • DALLAS • MINNEAPOLIS • CINCINNATI • ATLANTA • PITTSBURGH • ST. LOUIS • INDIANAPOLIS • KANSAS CITY • MEMPHIS

Printed Cellophane, Pliofilm, Glassine, Aluminum Foil, Vinyl, Lacquer coated and Laminated Papers in all forms, including Sheet Wraps, Rolls, Pouches, or Specialty Bags, Revelation Bread Wraps, Specialty Folding and Window Cartons, Counter Displays, Simplex Pie and Cake Units.

sales offices in all principal cities

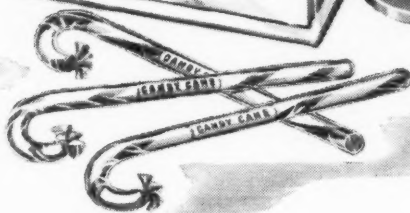
MILPRINT

PACKAGING CONVERTERS, PRINTERS, LITHOGRAPHERS

plants at Milwaukee, Philadelphia, Los Angeles, Tucson

116

SYLVANIA* means Cellophane



and that means Confidence!

Buyers of products wrapped in Sylvania Cellophane buy with confidence. They have the assurance of cleanliness and flavor retention. Sylvania Cellophane is more than beautiful. It is air and dust proof. It keeps moisture out—and in.

These important functional qualities make Sylvania Cellophane essential for such perishable products as frozen foods, baked goods, tobacco and confectionery. And in the future many more products will have better protection because of this versatile packaging material.

SYLVANIA CELLOPHANE

Made only by **SYLVANIA INDUSTRIAL Corporation**

Manufacturers of cellophane and other cellulose products since 1929

General Sales Office: 122 E. 42nd St., New York 17, N.Y. ★ Plant and Principal Office: Fredericksburg, Va.



• Registered Trade Mark

Creative



In the Cosmetic Field the word *Creative* is synonymous with Distinguished "On The Package" Printing. Colorful-Permanent-Integrated . . . this method has been refined by us to the point where it meets the specific needs of Package Decoration. On all surfaces including glass and plastics.

Creative

PRINTMAKERS GROUP

SURFACE DECORATORS FOR THE PACKAGING FIELD
200 VARICK STREET, NEW YORK 14, N. Y. • WALKER 3-6300
IN CANADA: 2424 Yonge Street, Toronto, Ontario

Sal Hepatica takes a prescription!



SAL HEPATICA had a slight case of package-trouble.

The package! a small glass vial which held a "physician's sample" of the product.

The trouble: this glass vial had a bad habit of cracking up in packing or shipment.

So we had a look at the trouble ...and promptly prescribed our Unitainer, the convenient, compact, one-dose collapsible tube. And Sal Hepatica *took* the prescription.

Good medicine? Must have been, because every symptom of package-

trouble disappeared. No more samples crushed or broken in transit. Instead, every sample reached some doctor's office in perfect condition. Because neither air nor moisture nor germs can get inside a Unitainer, not until the very moment of use.

But your product is different?

Of course it is. Yet perhaps your packaging problem isn't so "different" as you might think. Almost any packaging problem gets a lot closer to solution when it gets this kind of design ingenuity and resourcefulness.

You already know that the collapsible tube has unique, inherent advantages: it's virtually unbreakable, compact, germ-proof, light-proof. Contents won't dry out in use.

But this may be news to you: recent developments have made Sun Tubes ideal containers for products never before thought suitable for tube packaging!

Can these developments help solve your packaging problem? Just ask the Sun Tube representative nearest you. A phone call or postcard will bring him to your office.

SUN TUBE CORPORATION

Hillside, New Jersey

CHICAGO 1, ILL.
James L. Coffield, Jr.
360 No. Michigan Avenue

ST. LOUIS 1, MO.
M. P. Yates
Arcade Building

ST. PAUL 1, MINN.
Alexander Seymour
615 Pioneer Building

LOS ANGELES 27, CALIF.
R. G. F. Byington
1260 North Western Ave.



AGAIN... *Peace on Earth...*
to All of Good Will

HAZEL-ATLAS GLASS COMPANY, WHEELING, W. VA.

DECEMBER • 1945

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Put A Stop To
EXCESSIVE
M.V.T.
with
KELLER-DORIAN
functional packaging papers



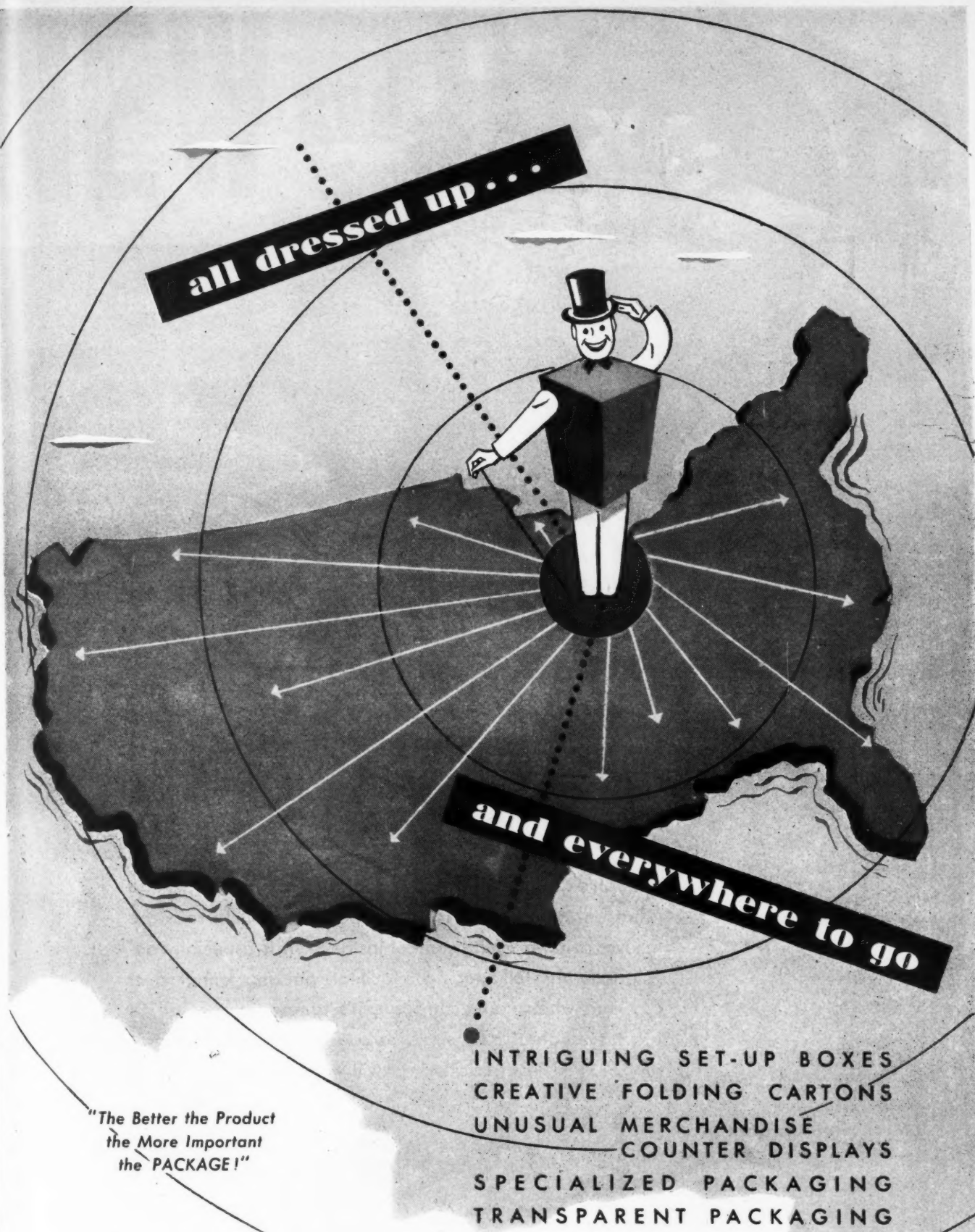
MOISTURE VAPOR TRANSMISSION is the greatest obstacle in the packaging of a wide range of products. Keller-Dorian functional packaging papers offer a solution to this problem of keeping moisture where it belongs, by controlling M.V.T. up to 1.3 grams.

This works two ways. In packaged meats, vegetables and fruits the proper amount of moisture is kept *in* to help retain flavor, keep contents from dessication. In other packaging applications K-D functional paper keeps moisture *out*, prevents rust, corrosion or spoilage. And this can be accomplished, in many cases, with only a *single* wrap!

If you are looking for greaseproof, non-cracking, easily handled packaging papers designed for functional service in many fields, get in touch with Keller-Dorian. We will send samples or furnish experienced counsel without obligation.

KELLER-DORIAN
CORPORATION
Empire State Building
New York 1, N. Y.

FUNCTIONAL PACKAGING PAPERS *for Protecting Perishable Products*



"The Better the Product
the More Important
the PACKAGE!"

INTRIGUING SET-UP BOXES
CREATIVE FOLDING CARTONS
UNUSUAL MERCHANDISE
COUNTER DISPLAYS
SPECIALIZED PACKAGING
TRANSPARENT PACKAGING

ACME PAPER BOX COMPANY

STATE AT SIXTIETH ST., CHICAGO 21, ILL. • *designers • creators • manufacturers*



It's a Gift

...THE WAY SEFTON'S
"PROFIT PACKAGING"
WILL WORK FOR YOU!

Sefton's designers have a knack of creating the package that will do the most for your specific product! Take the clever string-opening can, for instance. It is especially designed with a full opening to facilitate packing your product ... and when you're through, it's tamper-proof, for it's factory-sealed! Yes, sir...it's a gift...the way Sefton's "Profit Packaging" will work for you!

OTHER FEATURES:

It opens easily

It can be closed again



FIBRE CAN COMPANY

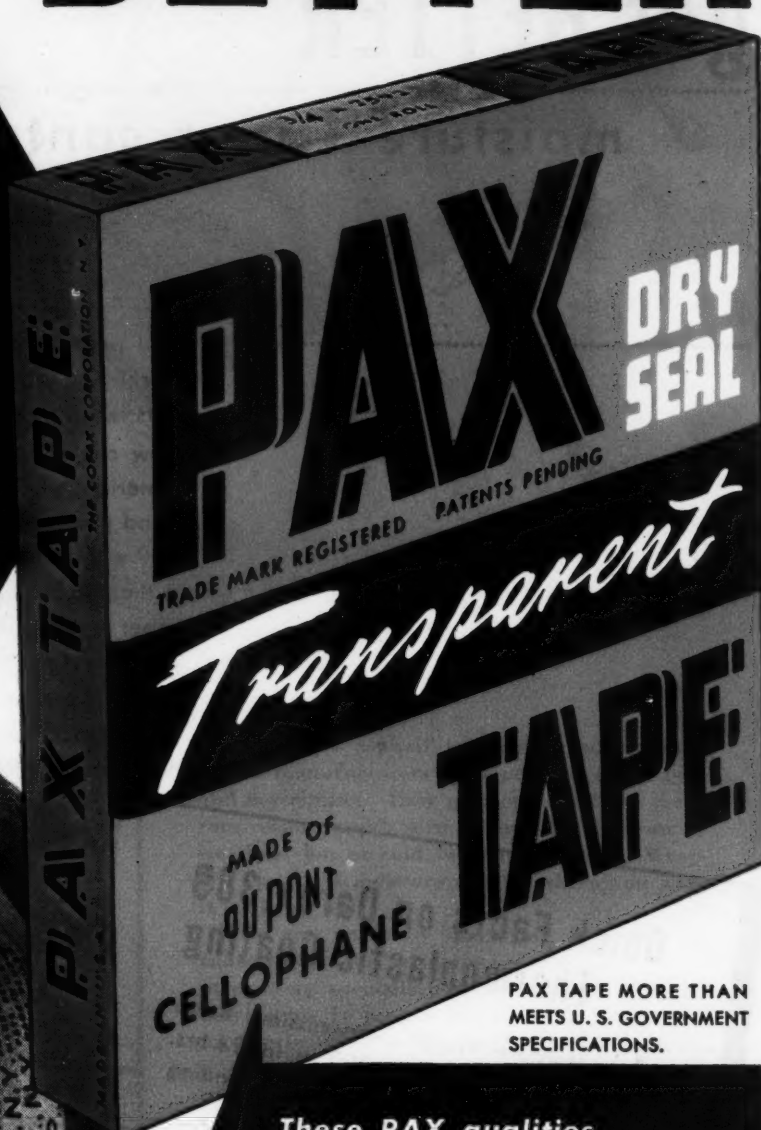
ST. LOUIS • • • • • NEW ORLEANS

DISTRICT OFFICES: • Los Angeles • San Francisco • Denver • Tampa • Chicago • Des Moines • New Orleans • Boston • Detroit • Kansas City • St. Paul
Omaha • New York • Cincinnati • Cleveland • Oklahoma City • Pittsburgh • Memphis • Nashville • Dallas • Houston • Salt Lake City • Seattle

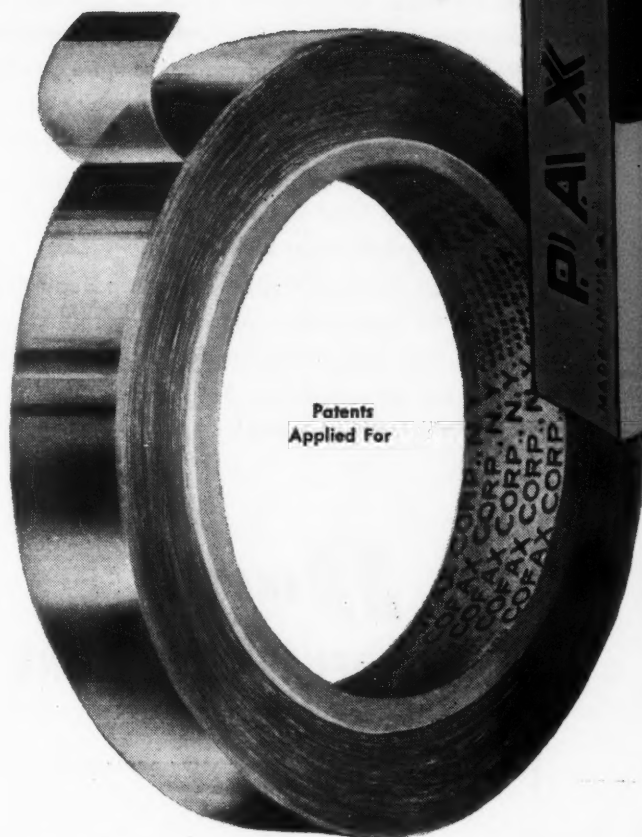
NEW and BETTER

PAX TAPE marks a distinct advance in pressure sensitive tape. Test and use prove it a superior product.

PAX superiority in performance is due directly to the new formula and the original process by which it is made.



PAX TAPE MORE THAN MEETS U. S. GOVERNMENT SPECIFICATIONS.



These PAX qualities challenge comparison:

- Has greater tensile strength
- Gives stronger adhesion
- Edges always remain dry
- Rolls never telescope
- Lasts longer; keeps indefinitely
- Need not be stored in metal boxes

A product of

THE COFAX CORPORATION

NOW AVAILABLE IN LARGE RANGE OF COLORS

NEW YORK OFFICE:

50 EAST 42ND STREET, NEW YORK 17, N. Y.

for BETTER

maintenance of quality

get BETTER

moisture-vapor control

Food products of high quality need the very best in protective packaging if that high quality is to be maintained until the products reach the consumer.

How can it be done? For hygroscopic or for moisture-laden materials, where moisture-vapor must be kept out or held in, a good grade of paper coated with Darex Thermoplastic Coating 389 will give you results which will surprise you. Darex 389 is a thermoplastic coating for paper, to supply a heat-sealable sheet which is impervious to the passage of moisture-vapor. It is odorless, tasteless, safe.

During wartime, shortages of materials made it necessary to limit production of Darex 389 to sample, "research" quantities. Now Darex 389 is freely available, and more and more quality-minded packers are asking about it. Why don't you?

A new product, it is already well established. Here are a couple of fields where it has been used successfully . . . on cellophane food wraps, on high-wet-strength papers with possibilities as locker-plant wraps.

The protection Darex 389 gives is worth a good deal more than the fraction of a cent it may cost per package—it is insurance protection for quality products.

Here are the facts on Darex 389. If you want more details, we shall be pleased to work with you. Write us today.

Quick Facts on Darex 389 Thermoplastic Coating

1. Moisture-Vapor Transmission Rate: Less than 0.30 gm./100 sq. in./24 hrs. @ 92% R. H. @ 38.5°C, depending on thickness.
2. Softening point: 183°F.
3. Application temperatures: 220-250°F.
4. Application equipment: Can be applied on any machine capable of handling high-viscosity material.
5. Odor: None.
6. Taste: None.
7. Color: Off-white.

Darex
THERMOPLASTIC COATING
389

DEWEY AND ALMY CHEMICAL COMPANY
PACKAGING DIVISION
CAMBRIDGE 40, MASSACHUSETTS

IS YOUR PACKAGE

PARKED BEHIND IT?



Wrap-DRI PAPERS KEEP MOISTURE IN OR OUT



WATERPROOF OUTER WRAPS

WATERPROOF INTERIOR WRAPS

WATERPROOF HEAVY-DUTY WRAPS

WATERPROOF CONTAINER LININGS

WRAP-DRI asphalt waterproof papers safeguard manufacturers' products of every type and description. They protect them from moisture, vapor, mold, vermin, and the elements of weather; hot or cold, wet or dry. With Wrap-Dri you keep moisture exactly where you want it — in or out.

You can profit by specifying Wrap-Dri because it is made in numerous distinct types to meet every specialized need and individual requirement. It ranges from heavy kraft, jute mesh reinforced — to plain or creped asphalt-lined kraft papers. All are tough, pliable, economical and long lasting.

Then, too — with Thilmann's complete converting facilities *within the mill*, you can order Wrap-Dri with printed or machine-marked designs in sheets, rolls up to 10 ft. in width or *made-to-order bags and liners*.

We invite you to investigate Wrap-Dri and learn how this remarkable waterproof material can fit into your packaging plans.

THILCO *Functional*

THILMANN
PULP & PAPER COMPANY
KAUKAUNA • WISCONSIN
PAPERS



How SKILSAW Protects Equipment "in-the-Package"

Moisture "in-the-package" causes vast damage to precision equipment.

Skilsaw, Inc. prevents this damage by means of Jay Cee Silica Gel, the ideal drying agent. A few small bags of the Jay Cee Gel are included within tightly sealed packages of electric hand-saws, drills, and other tools. The gel has amazing power to absorb and hold moisture. Thus the air in the package is kept thoroughly dry and damage from rust or corrosion is avoided.

This practice is being followed by more and more manufacturers of metal products. The

cost of the gel is a mere trifle in comparison with the possible damage from rust or corrosion.

Jay Cee Silica Gel has wide application in the Air Conditioning, Refrigeration, and Chemical industries. It is clear white; passes a rigid section test; meets exacting Government specifications; is strictly a quality product.

A few excellent Jay Cee Silica Gel sales territories are still open to jobbers. Write for details.



JOLIET CHEMICALS, LTD., INDUSTRY AVENUE, JOLIET, ILLINOIS



SILICA GEL

A superior dehydrant

FOR INFORMATION OR SERVICE • CONSULT YOUR NEAREST SET-UP BOX MANUFACTURER

DOES YOUR PACKAGING ADD

Prestige?

Prestige minded Department Stores and Retailers are among the world's largest users of Set-Up Boxes.

Selling is just what it used to be . . . and it takes good packaging to add selling prestige. That's why Department Stores and the retail trade buy over 300 million set-up boxes every year . . . more than all other sales-conscious containers combined.

No other package is custom-built for style, strength, sales appeal, service and economy . . . for your particular requirements.



NATIONAL PAPER BOX MANUFACTURERS
Association

AND CO-OPERATING SUPPLIERS
Liberty Trust Building • Philadelphia 7, Penn.

WRITE FOR FREE PACKAGING SURVEY "DEPARTMENT STORES AND RETAILERS"



**HEAR YE!
HEAR YE!**

New compact hearing aid case ... OF MOLDED DUREZ

This new-type hearing aid is called the "Unitron." Its outstanding feature is the elimination of separate batteries. The electrical pick-up unit and batteries are all contained in the molded Durez case illustrated.

Molded of Durez for the C. L. Hoffmann Corporation, this eye-appealing case is practically impervious to the

heavy-duty wear and tear of everyday use.

The extreme versatility of the more than 300 Durez phenolic molding compounds has resulted in their extensive use through the packaging field. In closure manufacturing, for example, investigation proves that more closures have been made from Durez than from any other plastic material.

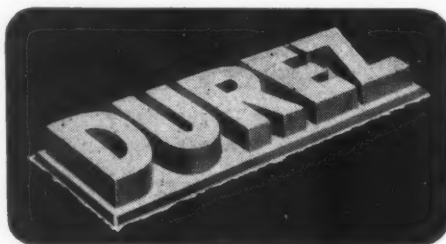
Such properties as non-bleeding finish, excellent moldability, and resistance

to moisture, chemicals, alkalis, and temperature extremes make Durez phenolic plastics the logical starting point when looking for the plastic that fits your job.

The services of experienced Durez Laboratory technicians are available at all times to you and your custom molder. Durez Plastics & Chemicals, Inc., 4812 Walck Road, N. Tonawanda, New York. *Export Agents: Omni Products Corp., 40 E. 34th St., New York 16, N. Y.*

TIP ON PLYWOOD CONTAINERS

Combine ease of manufacture with a product that has eye-appeal and tremendous durability... and you have the wartime-proved Durez-resin-bonded plywood container. The unusual strength and the resistance to temperature extremes and moisture which Durez resin imparts to the rich beauty of plywood make it a natural for the progressive container manufacturer.



**PHENOLIC
RESINS**

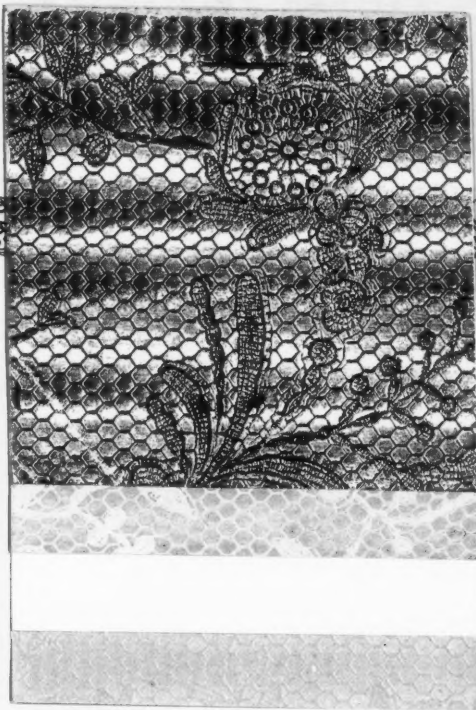
MOLDING COMPOUNDS

INDUSTRIAL RESINS

OIL SOLUBLE RESINS

PLASTICS THAT FIT THE JOB

Valenciennes Lace



Beautiful embossed design simulating the appearance and the feel of Valenciennes Lace is Kupfer's newest packaging paper.

Tipped-on samples show the pattern re-

produced on various types of stock. In colors and in gold and silver, Valenciennes Lace is a unique luxury wrap for cosmetics, confectionery and other quality products.

This is just one of a number of Kupfer packaging papers available to all fields. We offer a complete range of colors, textures, patterns. Samples will be sent on request.

Kupfer is known as the source for the finest trademarked papers as well. We reproduce your trademark, or design one for you, to personalize your wrapped packages. Widely used by Department stores and other merchants. Sample book sent on request.

KUPFER BROS. CO.

Manufacturers of Surface Coated Papers

4 ASTOR PLACE, NEW YORK 3, N. Y.

Est. 1845

B O S T O N • R I C H M O N D • P H I L A D E L P H I A

KUPFER BROS. PAPER CO.

145 WEST HUBBARD STREET
CHICAGO 10, ILLINOIS

Southwest Representatives:

MODERN PACKAGINGS
IRWIN-KEASLER BLDG., DALLAS 1, TEXAS

Volatile Product?

Another Reason for

CEL-O-SEAL

TRADE MARK



LIGHTER FLUID needs particular protection in transit. So the makers of Ronsonol seal the primary closure with a Du Pont "Cel-O-Seal" cellulose band.

Easily applied by hand, the "Cel-O-Seal" band shrinks to a close, tight fit that guards against evaporation, leakage and tampering. It means added safety...and a plus in merchandising, too, because the colorful "Cel-O-Seal" band adds a neat, distinctive touch to the package.

"Cel-O-Seal" bands do an important all-round job. They safeguard your product—and help you sell it. Write today for full information.

You can get "Cel-O-Seal" bands from: E. I. du Pont de Nemours & Co. (Inc.), "Cel-O-Seal" Section, Empire State Bldg., New York City 1 • Armstrong Cork Company, Glass and Closure Div., Lancaster, Pa. • I. F. Schnier Company, 683 Bryant St., San Francisco 7, Calif. *Trade Mark

DU PONT
"CEL-O-SEAL"
BANDS



BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY



Teamwork

PRODUCED THESE RESULTS

... 254 Individual Products Each Requiring
a Container, a Carton and a Label

Here is part of the newly designed package family which Bristol Laboratories, Inc. has just introduced to the ethical drug trade. In pleasing tones of green and buff, the basic design combines dignity with excellent eye appeal.

These results are an outstanding example of what teamwork can accomplish in working out a complex packaging problem. By close coordination with Bristol's Packaging Committee, The Lord Baltimore Press not only furnished through its Design Counselor* the basic theme, but also worked out in infinite detail its application to 254 products comprising the Bristol line. Each one required a container, a carton and a label—all produced by The Lord Baltimore Press.

This cooperation is typical of the service The Lord Baltimore Press renders its customers. The results obtained are conclusive proof of the effectiveness of this procedure. This same experience and technical skill is at your service.

* EGMONT ARENS
Industrial Designer
See article in November
1945 issue of *Modern
Packaging*.

The Lord Baltimore Press

1500 GREENMOUNT AVE., BALTIMORE 2, MD. SALES OFFICES: 595 MADISON AVE., NEW YORK 22, N.Y.—ELDORADO 5-4180

Folding Boxes • Labels • Inserts

Originators of **FIDEL-I-TONE** High Fidelity Color Reproduction

**Trade-mark

ELECTRONIC LABORATORIES'

NEW

Utiliphone
IN A



As important as your Product
itself, is the Package entrusted
with its safe delivery. Design,
bracing, padding, etc., are correct
when your Product is in a —
“Package by Inland”

INLAND
CORRUGATED FIBRE BOXES



INDIANAPOLIS, IND. • MIDDLETOWN, OHIO • EVANSVILLE, IND. • MILWAUKEE, WIS. • DETROIT, MICH.

THE PROOF OF THE PACKAGING

IS IN THE SELLING



On the counter . . . on the self-service rack, printed transparent wraps displaying your product in flattering perspective saves time, speeds sales, and tells the story the salesman used to tell — at a glance. Let us design a new "silent salesman" package wrap for you . . . accurate printing up to four colors on cellophane, acetate, glassine, pliofilm in rolls and sheets. Complete packaging facilities.

Your inquiries invited—no obligation.

FOODS
CANDY
DRUGS
COSMETICS
TEXTILES
FASHION ACCESSORIES



ROTO-LITH Ltd

30-32 WEST 13th STREET • NEW YORK 11, N. Y.

DECEMBER • 1945

57

SELENIUM



The "moon-metal" that keeps glass crystal clear


ALTHOUGH glass chemists still collect many headaches trying to produce absolutely colorless glass, they're having much better success since they learned how to use selenium.

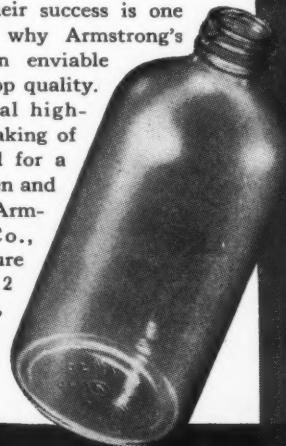
This dull red "moon-metal," a by-product from the refining of copper and other metals, is a most efficient decolorizer for flint glass. It counteracts the coloring effect of iron, which is always present, even in the purest commercial ingredients, and which gives glass a blue-green, or yellow tint.

To use selenium successfully, however, requires considerable skill and experience. Selenium and the cobalt oxide and other materials usually added with it must be used in fantastically small proportions—about one-half ounce of selenium and about 1/16 ounce cobalt oxide per ton of batch! Furthermore, if the atmosphere of the furnace is not right, or if the finished ware is

not carefully controlled during annealing, the selenium will not produce its beneficial action and off-colored glass will result.

Armstrong's glass chemists, through years of research and experimentation, have learned to handle successfully not only selenium but also the other difficult and temperamental materials used in glassmaking. Their success is one of the reasons why Armstrong's Glass enjoys an enviable reputation for top quality.

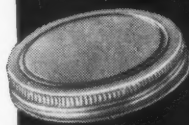
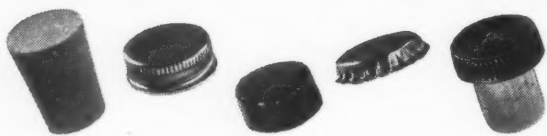
For additional highlights on the making of good glass, send for a free copy of "Men and Glass." Address Armstrong Cork Co., Glass and Closure Division, 5912 Prince Street, Lancaster, Pa. 

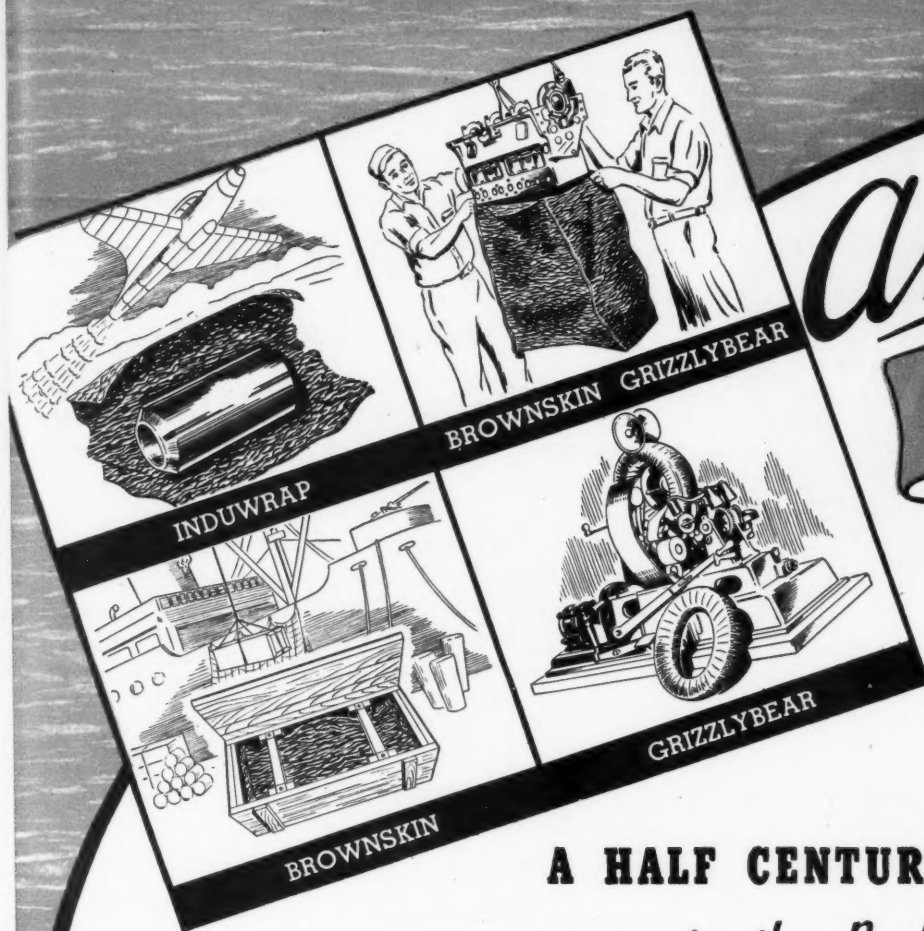


ARMSTRONG'S GLASS

and

ARMSTRONG'S CLOSURES





Angier
OF FRAMINGHAM

50th
Anniversary
1895 - 1945



A HALF CENTURY OF PROTECTION

*. . . to the Products of Our Nation
and its Industries in Peace and War*

Airplane engine and parts manufacturers were up against it for a grease-proof wrapper to prevent corrosion. Angier of Framingham produced it in INDUWRAP, which more than meets any specification ever drawn for a Grade A, Type I wrapper.

Chrysler of Canada engines were in trouble because of damage from the elements while enroute overseas. Angier helped to eliminate this trouble with A-19 BROWNSKIN GRIZZLYBEAR.

The government and many war industries needed for tarpaulins, case-liners and wrappers an extra-tough, non-deteriorating, water-resisting paper to protect countless products of war. Angier met the need with BROWNSKIN.

And Angier GRIZZLYBEAR, in both the asphalt and resinous grades, has been a constant solver of problems confronting shippers of airplane motors and critical wire, much of the latter in spirally-wrapped coils.

Have you an essential problem in product protection? Put it up to Angier engineers.

ASK FOR LITERATURE AND SAMPLES

Please mention by name this magazine

ANGIER CORPORATION
CORROSION PREVENTIVE AND WATERPROOF PAPERS
FRAMINGHAM, MASSACHUSETTS



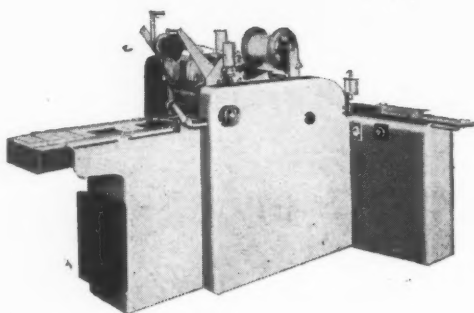
for
**Moisture-proof
PROTECTION**

CELLO-WRAPPS

with or without Tear-Strips

AT **250** or more PER MINUTE.

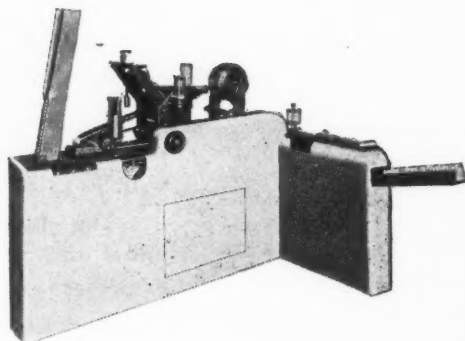
The *basic* SCANDIA patents are your complete assurance that Scandia cello-wrapping units are economical, *FAST* and dependable. Watch a Scandia wrapping machine work, and you'll be convinced that one of the Standard Scandia units gives you unequalled value . . .



Scandia Fully Automatic Cello-wrapping machine equipped with electric eye for registering printed wraps, and tear-tape attachment.

with *Electric Eye Attachment*

with *Revenue Stamp and Tear-Tape Attachment*



Scandia Special Fully Automatic Cello-wrapping machine equipped for applying Revenue or Union Stamps and Tear-Tape.

SAVE TIME AND MONEY

WITH A STANDARD SCANDIA*

Use Scandia cello-wrap units for ANY products that must be protected against *moisture*; or against the *loss* of moisture. Widely used in drug, tobacco, bakery and candy field; also for protection of razor blades, etc.

* Manufactured under Bronander Patents.

Ask for Complete Details —

Scandia MANUFACTURING CO.

NORTH ARLINGTON

NEW JERSEY

it's

WESTERN

for Plastics and Packages

Creators of new and unusual forms in
low pressure laminated plastics.

Converters and designers of packaging
materials including laminated and
coated metal foils, transparent films,
fabrics and paper.

Western combines scientific research
and development with practical knowl-
edge and experience to supply you with
products that sell!

Western Products Incorporated • NEWARK, OHIO



KEY WORDS FOR ...

BETTER PACKAGING

*We are creating better containers for your products.
We can smooth the way from your factory to the ultimate consumer.*

APACO *Packaging Engineers will help solve your Eye Appeal-Sales Appeal-Consumer Acceptance problems.*

ATLANTA PAPER COMPANY
Atlanta
Established 1868



• CORRUGATED CONTAINERS • FOLDING CARTONS • PAPER BAGS • PAPER PRODUCTS

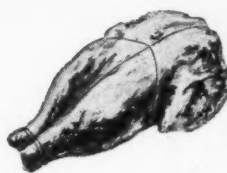
Baked in June..FROZEN
..Fresh in November

For baked goods . . . and cooked food . . . Alcoa Aluminum Foil gives the same super-protection that it gives foods frozen in the raw state. No other sheet can match aluminum foil in reducing dehydration and oxidation. Thus, more of the original flavor and color is preserved.

Important, too, is the fact that Alcoa Foil loses none of its effectiveness at sub-zero temperatures and high humidities. Nor does age alter its protective properties. Furthermore, foil is tasteless, odorless, and non-toxic.

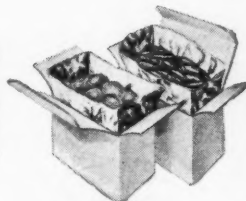
Just how you can make the best use of Alcoa Aluminum Foil to improve the quality of your products . . . as a bag, bag-in-carton, carton wrapper, tight wrap, or other construction . . . is worth investigating. Run tests and observe for yourself the remarkable difference that foil makes in frozen foods.

Consult your package supplier or draw upon Alcoa's great fund of packaging experience. Write ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pennsylvania.

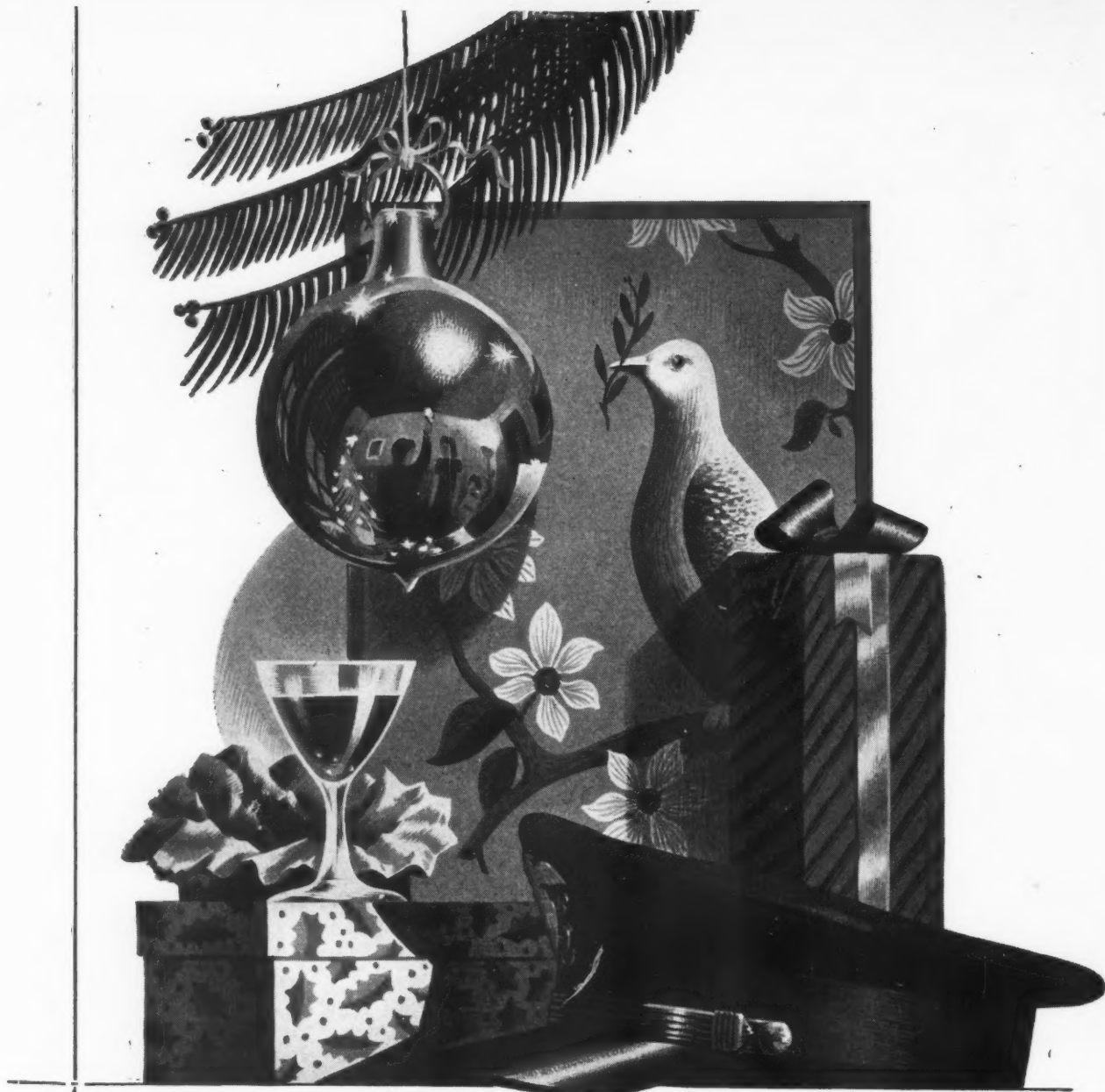


MEAT, POULTRY, FISH freeze quickly, stay juicier, retain more of their original flavor when wrapped in Alcoa Aluminum Foil.

VEGETABLES AND FRUITS packed in bags or cartons made with Alcoa Aluminum Foil keep more of their fresh-picked qualities because their juiciness is locked in tightly.



ALCOA ALUMINUM FOIL



Juletynings! . . . Reunions at home . . . Bright firesides . . . Gay hearts! This year's festive season returns to us the right and reason to rejoice! Peace has at long last become our cherished realization . . . to have, and we pray, to hold. Responding, therefor, with happiness and in all friendliness, we raise this, as our toast to you and yours . . . "May the fruits of America's well-won Victory shower you with blessings."



MANHATTAN PASTE & GLUE CO., INC.
Lion Brand Adhesives

Chicago
 Philadelphia
 Rochester
 Boston
 Columbus, O.

425 GREENPOINT AVENUE, BROOKLYN, N. Y.

IN WAR AND IN PEACE . . .

Ingenuity Sparks Our Counter-Attack. ^{DISPLAY}



Since Pearl Harbor, CHASPEC'S facilities have been mostly devoted to war. We are proud of the contribution our specialized machinery, techniques and materials made to the war effort. We are proud, too, of the ingenuity of our craftsmen who are producing unusual displays and merchandising units with unlimited eye and buy appeal. Yes, CHASPEC'S combination of creative 'know-how' plus specialized equipment can spark your counter-display-attack at all times. Let us solve your next display problem.

CHASPEC'S UNIQUE MANUFACTURING FACILITIES

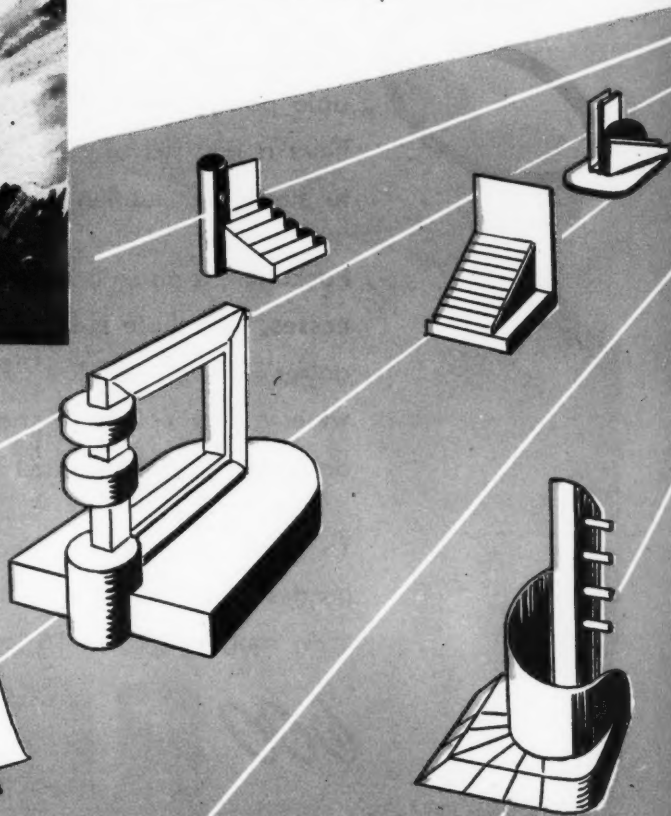
- Forming
- Combining
- Coating
- Blanking
- Gluing
- Spraying
- Embossing
- Laminating
- Enameling
- Cutting
- Assembling
- Finishing

MATERIALS USED

- | | | |
|-------|------------|----------------|
| Metal | Paperboard | Composition |
| Paper | Masonite | Fibre |
| Wood | Tekwood | Sheet Plastics |

THERMOLOID (Our own speciality)

The asphaltum impregnated fibre plastic board. Thermoloid is moulded, pressed and formed into high relief shapes for bases, stands, housings, cases and any unit requiring third dimension and structural strength. It is made wholly of non-critical materials and has replaced metal and plastics in numerous instances.



SPECIALISTS IN POINT-OF-SALE MERCHANDISING SINCE 1922

CHASPEC MANUFACTURING CO.

295 LAFAYETTE STREET • NEW YORK 12, N. Y. • CA 6-0338



Sunday Golfer OR Pro?

Some men play golf but once a week, a few clubs and a comfortable pair of shoes their only equipment . . . but the "pro" must have a bag-full of clubs, carefully selected and matched, ready to meet any situation and help overcome his competition.

Packaging is again becoming a very competitive part of many businesses, and there is little opportunity for the man with "Sunday-golfer" equipment. The "Pros" in the packaging field require a wide variety of highly specialized technical papers . . . carefully designed to meet the exact individual requirements of each product.

To satisfy their needs, Riegel produces more than 600 different grades of paper for packaging, converting and special industrial uses, ranging from a 16 lb. Glassine to a 400 lb. Pattern Paper.

600 RIEGEL Papers

Riegel packaging papers include glassine, greaseproof, sulphite, wet-strength . . . printed, embossed, resin-impregnated, laminated, oiled, lacquer-coated, waxed, dry-waxed . . . as well as printing papers, converting papers and special industrial papers in endless variety.

RIEGEL PAPER CORPORATION • 342 MADISON AVENUE • NEW YORK 17, NEW YORK

WIRZ COLLAPSIBLE TUBES FOR YOUR CREAMS, PASTES, POWDERS, LIQUIDS

INCREASE EYE-APPEAL, PROTECT YOUR PRODUCT, ADD CONVENIENCE

Whether your product is a newcomer or a well-established one, you can increase its eye-appeal and its convenience and at the same time keep it free from contamination in attractive, sanitary, self-dispensing WIRZ Collapsible Tubes. Designed with walls of uniform thickness, correct structure and orifice, WIRZ Tubes take decorative inks and lacquers beautifully. Self-dispensing, convenient, they prevent waste, protect your product and your customer good-will. Let us help you plan now for this extra appeal, protection and convenience.

A. H. WIRZ, INC.

Established 1836

CHESTER, PA.



Export Division—751 Drexel Building, Philadelphia 6, Pa.



New York 17, N. Y.
50 E. 42nd St.

Chicago 4, Ill.
80 E. Jackson Blvd.

Memphis 2, Tenn.
Wurzburg Bros.

Havana, Cuba
Roberto Ortiz Planos

A. G. Spilker { Los Angeles 14, Calif., 1709 W. 8th St.
Exposition 0178—Also Danville, Calif.



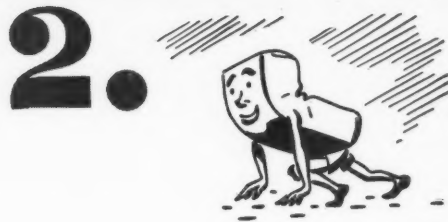
COLLAPSIBLE METAL TUBES • LACQUER LININGS • WAX LININGS • WESTITE CLOSURES • SOFT
METAL TUBING • HOUSEHOLD CAN SPOUTS • APPLICATOR PIPES • COMPRESSION MOLDING

It's amazing...

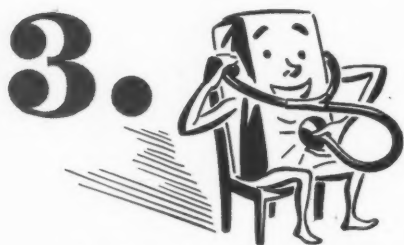
WHAT A GOOD PACKAGE CAN DO FOR YOU



It can attract attention to itself



—get the product off to a good start



—keep it in perfect condition before use



—thus helping to insure repeat sales

ENTER . . . "FLAV-O-TAINER"

This cooperative package—a patented duplex bag heat-sealed on all seams—is helping many a manufacturer to create brand preference for his product. It's a smart package, with lots of eye-appeal, particularly when developed by Royal designers, but even more important to the success of the product—it provides dependable protection against air, moisture, grease and odors.


FLAV-O-TAINER will soon be available in the following Royalflex films: Selloflex (Cellophane laminated to itself or to other material); Lumiflex (aluminum foil laminated to other material); Plioflex (Pliofilm laminated to itself or to other material); Duoflex (moisture-proof coated glassine laminated to itself).



THOMAS M. ROYAL

& COMPANY • Philadelphia 20

BOSTON • CHICAGO • SAN FRANCISCO • BEAUMONT • ATLANTA • PITTSBURGH • NEW ORLEANS
DENVER • SEATTLE • NEW YORK • ST. LOUIS • DAYTON • DETROIT • SYRACUSE • BRYN MAWR



*F*rom handwork on stone to high-speed, machine, multicolor reproduction, the history of Lutz & Sheinkman is the record of progress in modern lithography.

Every technical, mechanical and artistic advance in lithography has been made available to Lutz & Sheinkman customers as soon as it has proved practicable.

Based on quality craftsmanship and responsible performance, the growth of Lutz & Sheinkman during the last 50 years has been sound and steady. Today the plant covers 100,000 square feet, contains the finest equipment for producing every type of modern color lithography.



LUTZ & SHEINKMAN

SINCE 1896

421 Hudson Street

Lithographers
New York, N. Y.

50
years
of
COLOR

Lithography





A typical LUTZ & SHEINKMAN color lithograph reproduced in 6-color process from an original Kodachrome, courtesy of Turner-Hall Corp.

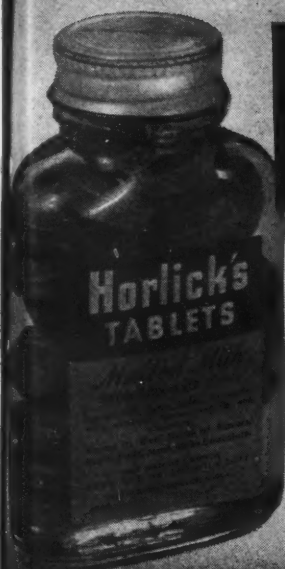
POSTERS • DISPLAYS • BOX-WRAPPS • LABELS • BOOKLETS for all industries



SINCE 1896

421 Hudson Street

LUTZ & SHEINKMAN
Lithographers
New York, N. Y.



LUNCH

on the wing!



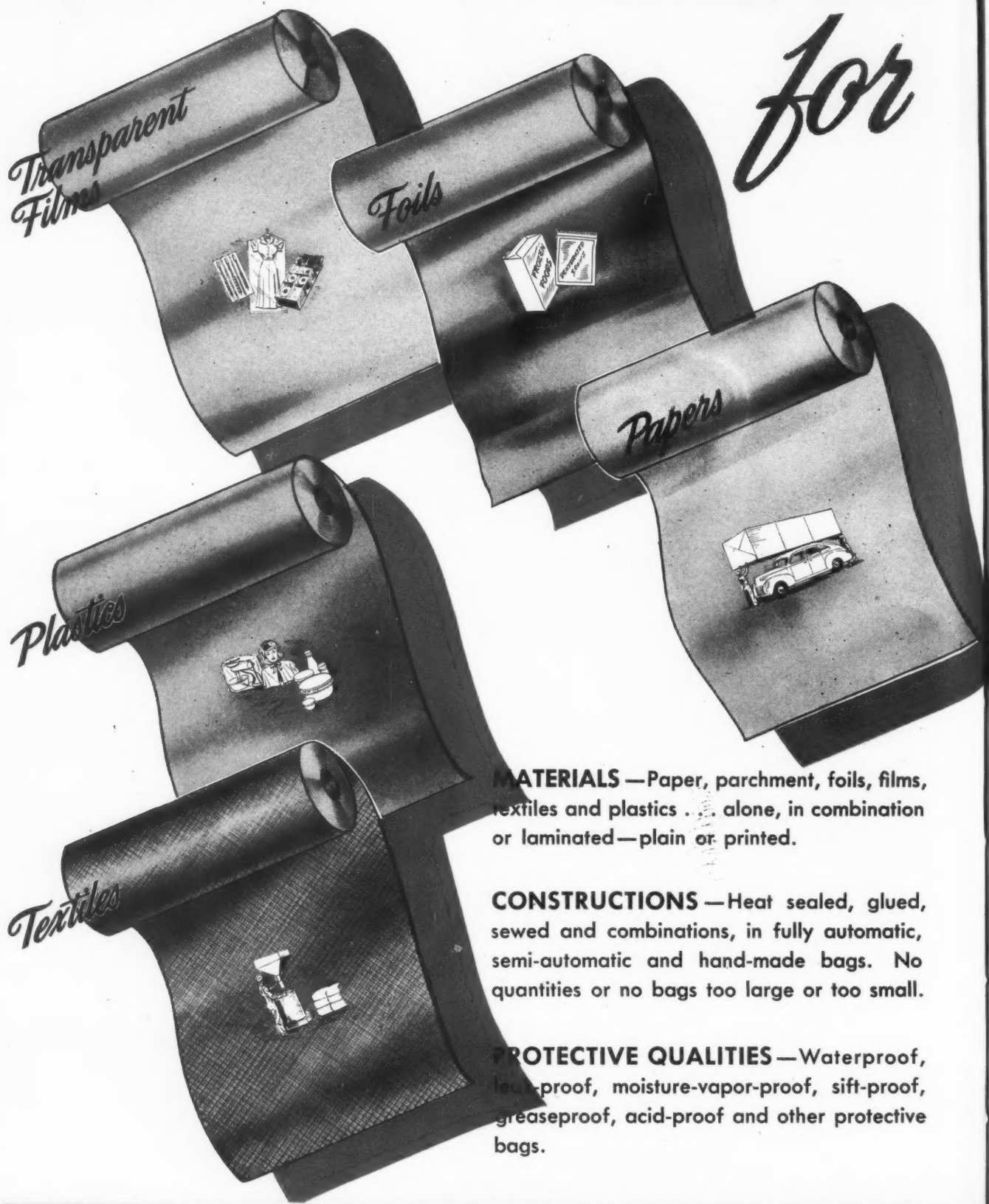
Hunters and sportsmen everywhere find Horlick's Malted Milk Tablets a quick source of energy . . . a light meal in a few tablets. Natural or sweet chocolate flavored, they're easily digested . . . make a swell snack when you're "on the move" and don't want to stop. Put up in a handy pocket flask, they're ideal for travelers, businessmen and children as well.

Sold at drugstores and candy counters all over the country, Horlick's Malted Milk Tablets are a product of Horlick's Malted Milk Corporation, Racine, Wisconsin. Like so many quality products, they are securely sealed with attractively lithographed Crown Screw Caps—the caps with the exclusive, patented Deep Hook Thread that gives twice the sealing pressure with the same amount of application force. Crown Cork & Seal Company, Baltimore 3, Md. *World's largest makers of metal closures.*

CROWN

CLOSURES

There's a **MEHL** *for*



MATERIALS —Paper, parchment, foils, films, textiles and plastics . . . alone, in combination or laminated—plain or printed.

CONSTRUCTIONS —Heat sealed, glued, sewed and combinations, in fully automatic, semi-automatic and hand-made bags. No quantities or no bags too large or too small.

PROTECTIVE QUALITIES —Waterproof, leak-proof, moisture-vapor-proof, sift-proof, greaseproof, acid-proof and other protective bags.

CONVERTERS OF ALL TYPES OF PROTECTIVE PAPERS...

"Custom-made" BAG *your Product!*

**...from a large variety of materials...
in all sizes...for all types of protection**

In the development of protective packaging for products, Mehl offers a versatility in manufacture that is unique in the packaging field.

We can develop a package for you that is *Custom-Made* to your specific need. And because every packaging problem varies in the amount and quality of protection desired, our facilities have been designed to provide a wide range of materials and constructions.

In addition to our own facilities, we offer those of the vast research laboratories of all the suppliers of our many varied materials. That is why Mehl can offer you such complete service in the development and manufacturing of packaging for your products.

We are in a position to provide prompt services in developing a *Custom-Made Mehl* bag for your product. Write, wire or phone us.

**THERE ARE MEHL BAGS
FOR EVERY TYPE OF CLOSURE**



... for Pressure Sealing



... for Heat Sealing



... for Glueing



... for Sewing



MEHL MANUFACTURING COMPANY

Division of Sydney-Thomas Corp.

2351 FERGUSON ROAD, CINCINNATI 5, OHIO

277 BROADWAY, NEW YORK 7, N. Y.

Now represented in Michigan, Northern Ohio, and Northern Indiana by: L. T. SWALLOW and ASSOCIATES, Boulevard Bldg., Detroit 2, Mich.

TRANSPARENT FILMS...FOILS...PLASTICS...AND LAMINATIONS

SITUATIONS WANTED



MYSTIK Self-Stik CLOTH TAPE is seeking new situations—and the tougher the better! For MYSTIK already has been through the toughest battle of packaging and shipping ever known. It was used by the millions of yards during the war to protect shipments of vital war materials under severe abuse and every kind of climatic condition. Now, that valuable experience plus the full production capacity of MYSTIK factories is available to you without restriction—ready to do a full-time job on your packaging and shipping.

MYSTIK is used widely as a seal against moisture, dust, corrosion, vermin and fungus—as protection for high-finished surfaces, sharpened edges and delicate pieces—to hold loose parts of disassembled shipments—to hold doors and drawers shut on cabinets, stoves, etc. Easily applied, holds powerfully, is readily removable, leaving no residue on the finest finish.

Write now for a sample roll of MYSTIK and try it on your toughest packaging and shipping problems. See for yourself how MYSTIK can go to work for you.



FREE — A big trial roll of MYSTIK and fact-filled literature. Write Mystik Adhesive Products, 2637 North Kildare Avenue, Chicago 39.

Sales offices in all major cities and Canada—export office New York City



Self-Stik Cloth and Paper Tapes, Protective and Masking Materials, Waterproof Packaging Papers, Advertising Signs and Displays, Self-Stik Stencils



HELP FOR NEW PRODUCTS READY TO TAKE THEIR FIRST STEP

One of the first considerations in marketing a new packaged product—is the PACKAGE. What form will that package take? What will be its functional design? How can it be given the necessary sales appeal to compete favorably with competitive products at point of sale? These, and other important packaging considerations have a fundamental bearing on both the production and merchandising success of your new postwar product. For more than 75 years U. S. P. & L. has been creating and producing quality packaging materials for many of the country's leading manufacturers and distributors of packaged products.

Call on this experience to help solve your packaging problems. Phone, wire or write for a "U-S" representative today.



COMPREHENSIVE PACKAGING SERVICE

... includes all phases of packaging design and production ... origination and checking of product trade name ... development of the package design along sound merchandising principles and correct functional applications ... selection of proper materials for maximum efficiency and practicability in manufacture ... highest quality production ... dependable delivery. This Comprehensive Packaging Service is backed by 75 years of experience in which U. S. P. & L. has served many of the country's leading users of packaging materials.



THE UNITED STATES PRINTING & LITHOGRAPH CO.

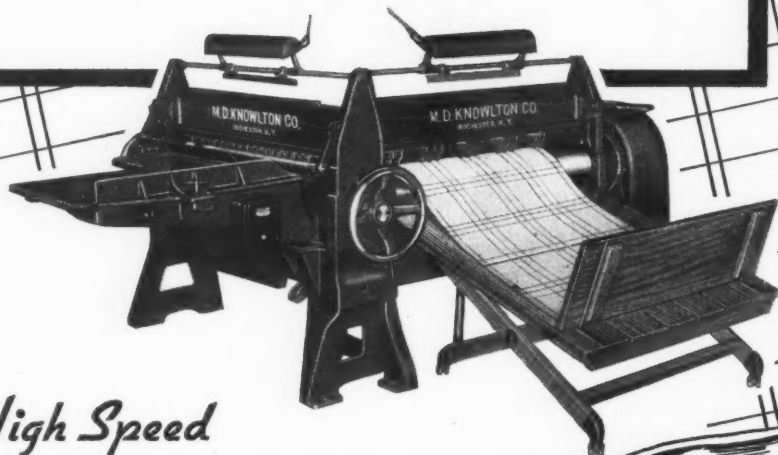
EXECUTIVE OFFICES: 384 BEECH ST., CINCINNATI 12, OHIO

SALES OFFICES IN PRINCIPAL CITIES

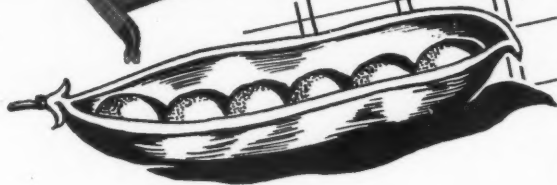
5 GREAT "U-S" PLANTS PRODUCING QUALITY PACKAGING AND ADVERTISING MATERIALS

SCORING

*More Uniform
than Peas in a Pod.*



KNOWLTON *High Speed* DOUBLE SCORER



PRACTICAL box makers seeking lower costs for a solution of scoring problems will be well repaid if they take time to investigate the multiple advantages and features of the Knowlton High Speed Double Scorer. Definite economies in production, speed, accurate uniform depth scoring without deflection are results obtained from the sound engineering and mechanical principles incorporated in these ruggedly built machines.

➔ **For complete details of this precision machine, send for Bulletin No. 94.**

Three superior features of the Knowlton High Speed Double Scorer insure accuracy and absolute uniform depth of scoring:

1. Weights have been distributed by the excellent design of the rugged base and extra-heavy reversible knife bars.
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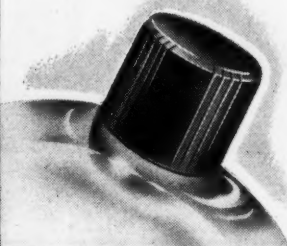
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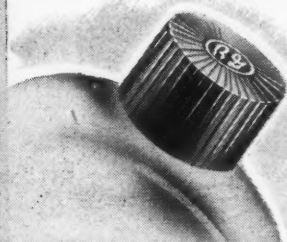
HICKOK BELTS



MENNEN SKIN BRACER



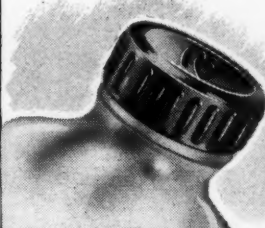
BARBARA GOULD LOTION



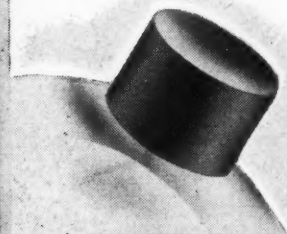
MAX FACTOR COMPACT



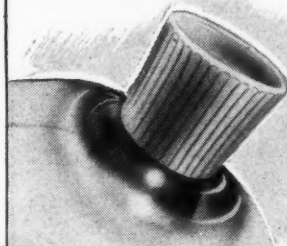
PEPSODENT ANTISEPTIC



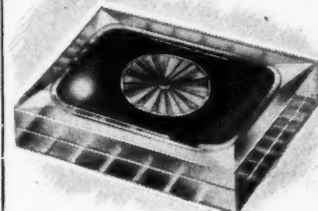
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PUT YOUR PRODUCT IN THIS PICTURE!

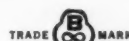
HERE'S A GALLERY of famous products—a mere few out of the thousands of sales leaders packaged with BAKELITE phenolic and polystyrene plastics in prewar days. Now these plastics are *again* available to impart their superlative protection and sparkling eye-appeal. Adopt these modern packaging materials, and join the company of distinguished names that enjoy the fastest turnover in America's retail outlets.

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91% OF U.S. INDUSTRY

*... is within reach of **PLANNED PACKAGING***



In the packaging field Ohio Box-board facilities cover the entire range of requirements — manufacturing the board, testing, developing, and converting. Complete coordination of cartons and containers for economy and merchandising appeal is a special advantage provided by **planned packaging**.

Geographically these benefits are

available on an economical basis to areas as widely separated as New England and Texas. Over 91%* of U. S. industry is within profitable reach of **planned packaging** with headquarters at Rittman, Ohio.

We'll be glad to talk to you about your special packaging requirements.



*Based on 1940 census figures, value of manufactured products by states.

THE OHIO BOXBOARD Co.

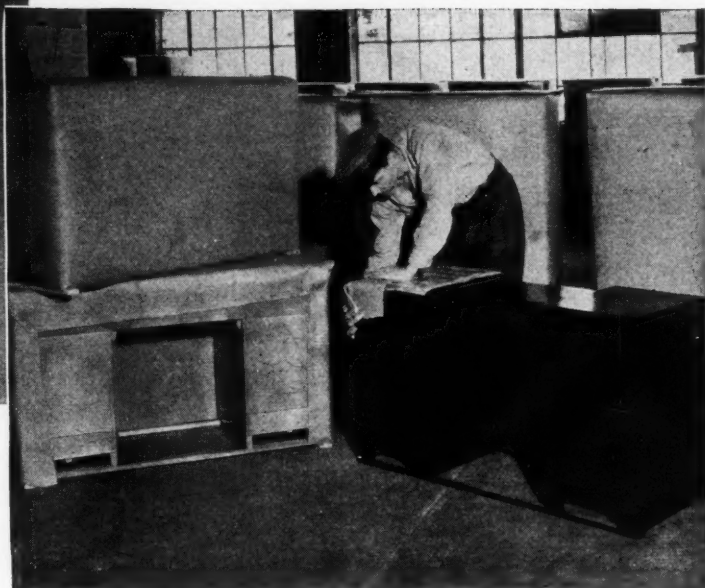
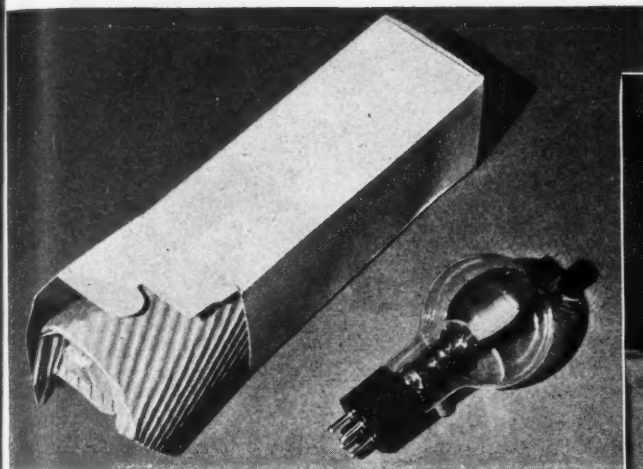
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Manufacturers of paper board, folding boxes, corrugated and fiber shipping containers, and converted specialties

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Capacity 500 tons daily

Better Protective Packaging at Lower Cost with... **CORROFLEX**



From inner packaging on small, fragile radio tubes to outer packaging on large, bulky furniture is an easy step for Corroflex. For this revolutionary, multiple-purpose material solves many packaging problems — *faster, better and more economically!* Its springy cushion floats delicate products as if on air. Its resilient cushion is combined with a sturdy outer covering which fits the products snugly, for economy in space and material. A multiple-purpose material, Corroflex replaces many different types of materials — and a single fast packing operation replaces multiple, time-consuming steps.

Corroflex offers you better protection with greater economy — for a host of packaging requirements. Whether you are designing consumer packages, industrial packages or shipping containers, it will pay you to consider Corroflex, for it offers greater efficiency for competitive peacetime packaging. FREE TRIAL samples of Corroflex will be sent without cost or obligation. Take the first step to better, more economical packaging — return the coupon today!

What Are Your Packaging Needs?

Sherman protective products include many types, for a great range of packaging needs:

Food-Packaging Products.

Baking Pan-liners — a money-saving, dual-purpose pan-liner and packaging tray.

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*Let us send you free trial samples to meet your needs . . .
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Right! We're interested in better protective packaging!
Send FREE TRIAL SAMPLES to:

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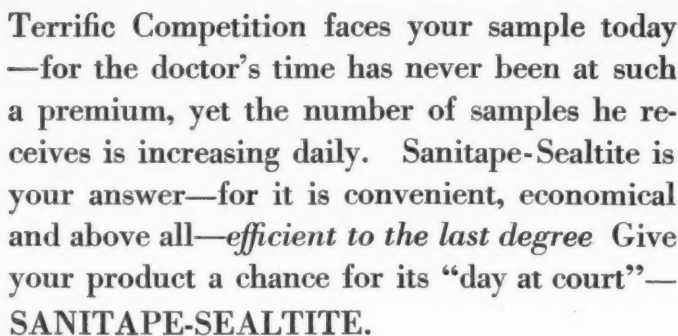
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OF FILMS FOR ALL USES

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A LIFT TO SALES BECAUSE

Women Prefer Them! When asked in 1945, "In what ways do you think glass containers are better for packaging things," 78% of the answers centered on these three compelling features: "Glass

provides visibility—you can see what you're getting"; "Sanitation or greater protection to health"; "Find them more convenient—easier to open, can leave left-overs in jars."



A LIFT TO SALES BECAUSE

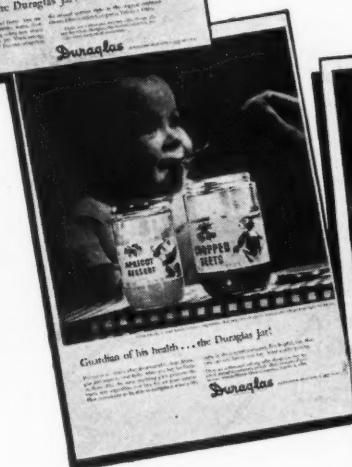
Gleaming, revealing glass turns buying impulses into impulse buying! Smart grocers speed sales in

January by a January SALE of taste-exciting foods that are appetizingly displayed in glass.



LIFTS YOUR
1946
PACK MAY NEED

Duraglas Container Advertising starts millions of buying impulses! Your sales benefit by the continuous, dramatic selling of good food in Duraglas Containers. Back *your* pack in 1946 with the selling lifts that only Duraglas Containers offer so completely!



Duraglas
TRADE MARK REG. U.S. PAT. OFF.

CONTAINERS

Preserve, Protect and SELL BY SIGHT

SPECIFY

Findley's

NO. 730

FOLDING BOX GLUE

Here is a High Service Factor Folding Box Glue . . . possessing these advantages:

- ① Exceptional adhesion on such paper stocks as Kraft, Clay-Coated, Manila and Chip-Board.
- ② Proven performance for Strip Gluing.
- ③ Good color visibility for "operating check" at high speed.
- ④ Exceptionally clean machining qualities permit high speed production.
- ⑤ Age-proof. Will not crystallize. Boxes will not "pop".
- ⑥ High humidity resistance . . . especially desirable in food packaging.

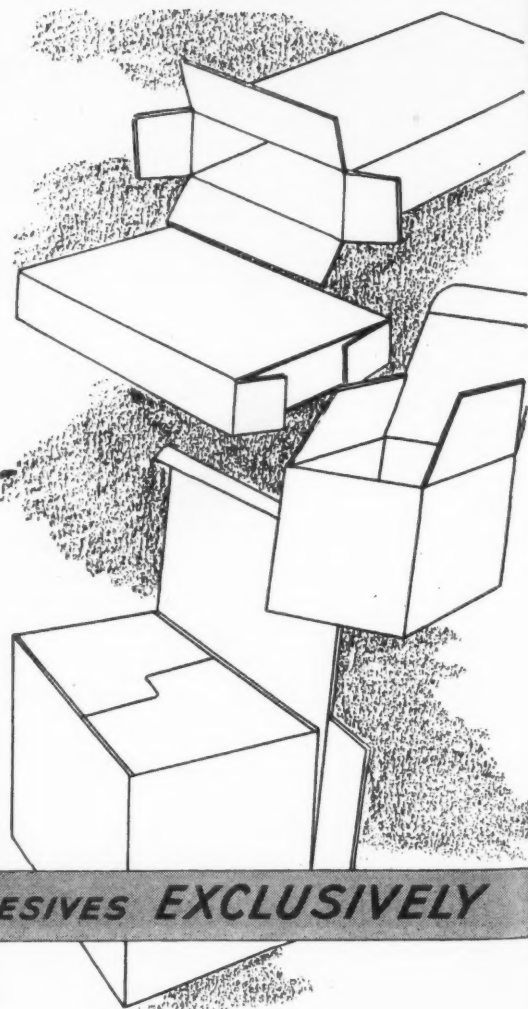
These are some of the characteristics that result from Findley's S. F. formulation and four-point control.

Time to change to Findley's No. 730 Folding Box Glue!

THE F. G. FINDLEY CO.

3045 N. PEMBERTON AVENUE

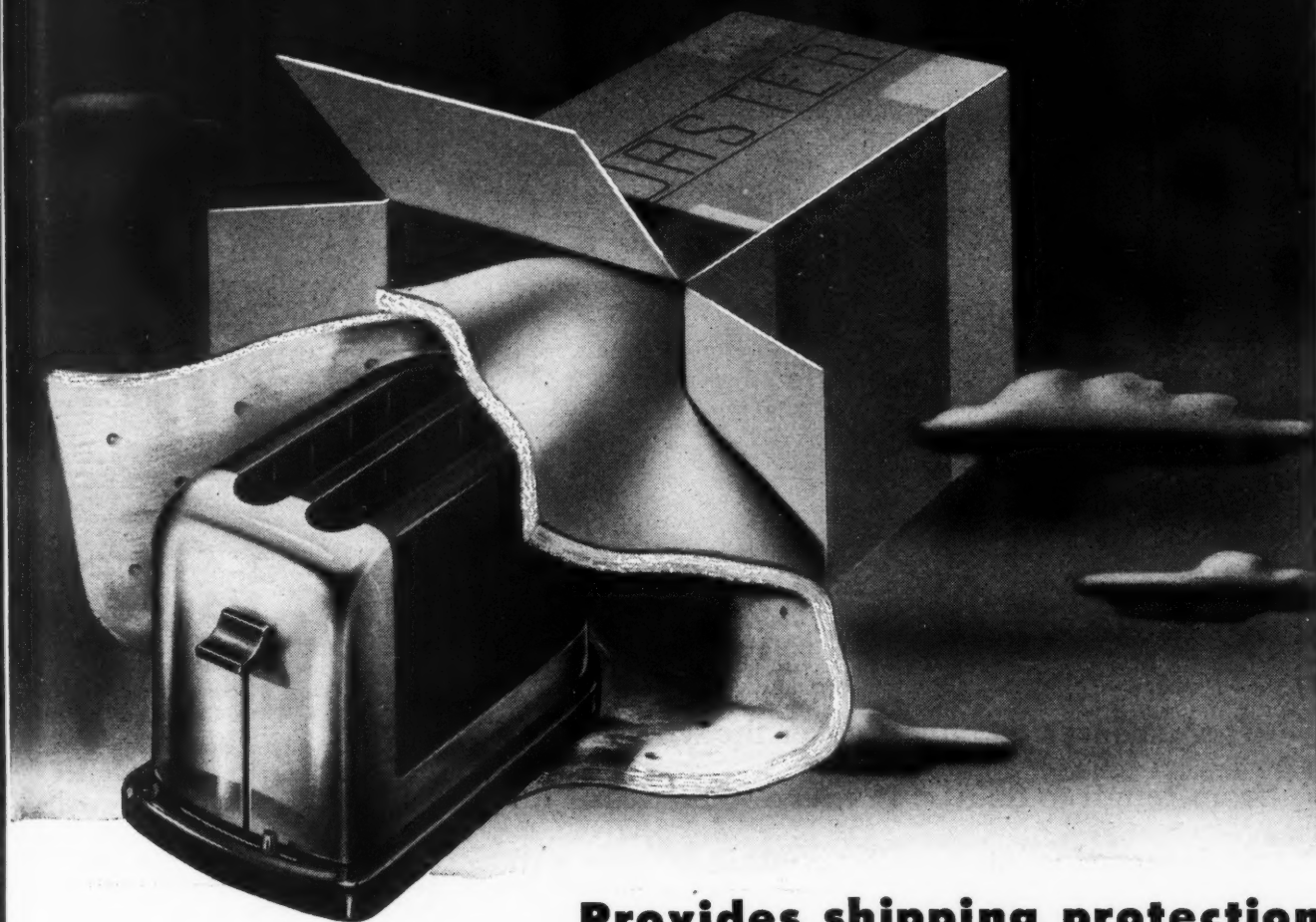
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Provides shipping protection

... adds beauty to the package

Make your package as modern as your new product. And that's easy when you use KIMPAK* Creped Wadding. For KIMPAK dresses your package as it protects your product. It complements the beauty of your product—provides a jewel-box setting that increases eye-appeal and buy-appeal.

So soft, so clean, so resilient KIMPAK guards against mars or scratches—damage or breakage. Flexible and easy to

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There's a size and type of KIMPAK to protect everything from glassware to refrigerators. Learn more about this modern packaging material. Write today for our Free illustrated booklet. Just mail a postcard to Kimberly-Clark Corporation, Creped Wadding Division, Neenah, Wis.

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As a cushioning material for interior packing, as a filter medium for liquids and air... for wiping and polishing... as a carrier for plastics... for general padding purposes, including furniture and automobile upholstery... as a filler for seaming cord and tubular gaskets.

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Send copy of FREE KIMPAK BOOK on modern packaging methods. MP-1245

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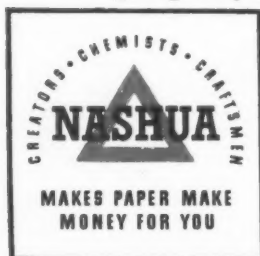
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Our Product is _____

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Nashua covering papers cover the whole range from tough to dainty. If your product calls for an interesting or novelty container, you will find in the *Nashua* line many unusual effects attained through special coatings, printings or embossings or combinations of these processes. If you want a covering paper "out of this world" — we have it or can make it. There isn't a type of product on the face of this earth that cannot be properly protected and made sale-attractive



in a *Nashua* box covering or wrapper. Consult *Nashua*.

I'M A PACKAGE EXPERT, MISTER!

Possibly I don't look like an expert, but don't let this chic little hat fool you, Mister. We girls have specialized in packaging, ever since Eve if you know what I mean. Likewise we demand a smart appearance in our friends and in our purchases. Stop and consider that we buy *93% of all packaged products, then let *Nashua* give your product a party dress so it can run around in our crowd!



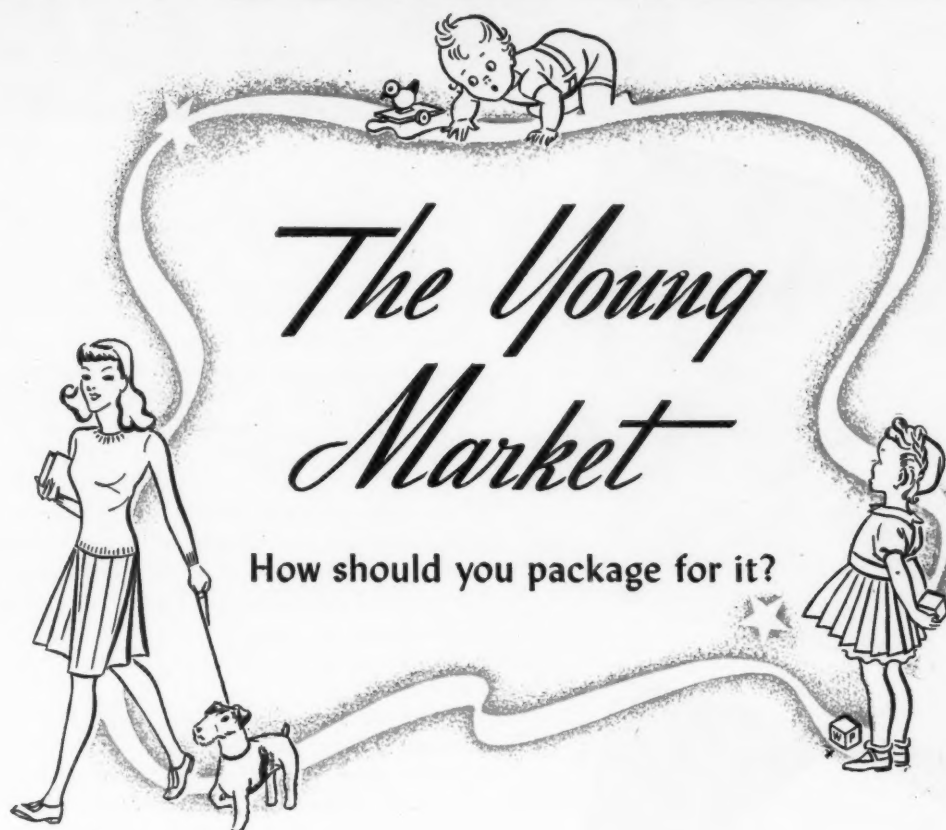
NASHUA GUMMED AND COATED PAPER COMPANY, NASHUA, N. H.

MODERN PACKAGING

VOLUME 19

DECEMBER, 1945

NUMBER 4



If you can train a child during the early years when habits are formed, those habits will be deep-grooved for life.

Religious orders have known this principle for centuries. Psychiatrists and youth educators have pointed it out for years.

Only in the last decade, though, has it been discovered as a sound principle in business—and a factor in today's merchandising panorama that may have a far-reaching effect on package design and new outlets for packaging materials.

Suddenly the idea of shaping the tastes of the very young blossomed forth in merchandising during the depression—first with the sponsored radio programs beamed to children by the makers of bread, breakfast foods, soups and soaps.

Perhaps what started to bring this principle into sharp focus was the plan a group of keen-minded publishers thought up for promoting a then little-known magazine called *Mademoiselle*—directing its appeal to a specific age group—18 to 25, the college girl and the young career girl.

Other women's magazines were floundering during the slim advertising years of the Thirties, but the infant *Mademoiselle* let out a few lusty yelps and grew within a few years into a thriving, beautiful young woman.

Other publishers launched similar books—all directed to a specific age group and all meeting with considerable success. Then along came another newcomer, *Seventeen*, slanted to another group—the teen agers. Now this darling of only a year is followed by *Calling All Girls* both as a magazine and a radio program, *Junior Bazaar* and *Miss America*. Just

announced is *Polly Pigtales*, a forthcoming magazine for 7 to 12-year-olds to be put out by *Parents' Magazine*, which is also considering a boys' magazine, *Calling All Boys* for 8 to 16-year-olds as the male companion of *Calling All Girls*.

The merchandising world is agog about a heretofore undeveloped market—40,000,000 potential young customers (according to the 1940 Census figures) below the age of 20. Get them to buy your products when they are young and they will be your customers for life, is the reasoning.

These magazines are the ready-made advertising media beamed to these young prospects. Quick to seize this new selling opportunity were the manufacturers of apparel and accessories of all kinds. Quick have been department store retailers to coordinate their promotions with appeals to the young age groups. Now—(package suppliers and designers please note well) the spotlight is on cosmetics and toiletries, packaged and specially promoted for these young markets.

Nearly 20,000,000 of these young prospects are girls—4,500,000 girls under 5 years old, 4,600,000 girls, 5 to 9; about 3,000,000 girls 9 to 12; 7,500,000 girls, 13 to 19—nearly twice as many girls below 20 years old as there were men in service to fight the war. It must be remembered, too, that this is based on 1940 figures. Population has increased considerably since then.

More than a dozen leading cosmetic firms now have special lines in special packages, planned for the very young, the young and the teen agers. Many more have plans underway—don't want you to say anything—but will probably



launch young skin lines during the coming year as sources of supply improve. On the market or coming soon are a number of lines put out by houses who specialize only in young cosmetics. Leading department stores are devoting whole cosmetic counter sections and many window displays to appeal to the youngsters themselves, to mothers shopping for their children or to doting aunts out to find Christmas gifts "too cute to resist" for their favorite nieces and nephews. Several leading department and chain drug stores already have their own private brand baby toiletries lines and are planning children's and teen-age lines in the near future. Other houses are definitely directing promotion and advertising of items in their regular lines suitable for young skins to the young market. Notable example was the featuring of Frances Denney preparations for the "tender teen-age skin" in a recent half page Macy newspaper ad. Other promotions in this field will be for Tone Laboratories' completely redesigned line.

The problem of selecting the package for young cosmetic lines, in some ways, presents a simpler one than for packages which must suit all ages and tastes. In the first place, the market for each age group is clearly defined and the package can be specifically planned to that end.

With a few exceptions, purchases for the age groups under twelve are made by adults. The strictly baby lines fall into two classes.

1—Orloff's pink and blue apothecary jars, adapted for their baby items, are among the outstanding gift lines in the baby field. 2—Dorothy Gray's baby box, designed to resemble a child's block, is another example of a gift ensemble. 3—Staple lines are often packaged in gift sets, like this J. B. Williams combination. 4—Staple items are usually bought by mothers solely for use and with an eye to economy. Instant brand identity is essential.





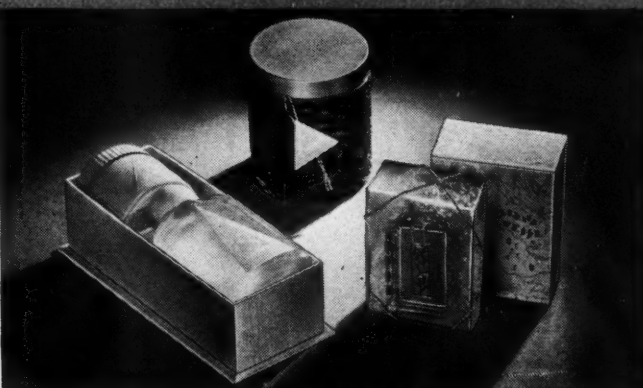
BABY



LITTLE GIRL



TEEN AGE



GROWN UP

5

5—With the launching of "Melinda," a teen-age line, Helene Pessl is almost in a class by herself in the cosmetic industry—a line of packaged products for every age group. Photos show the four groups.

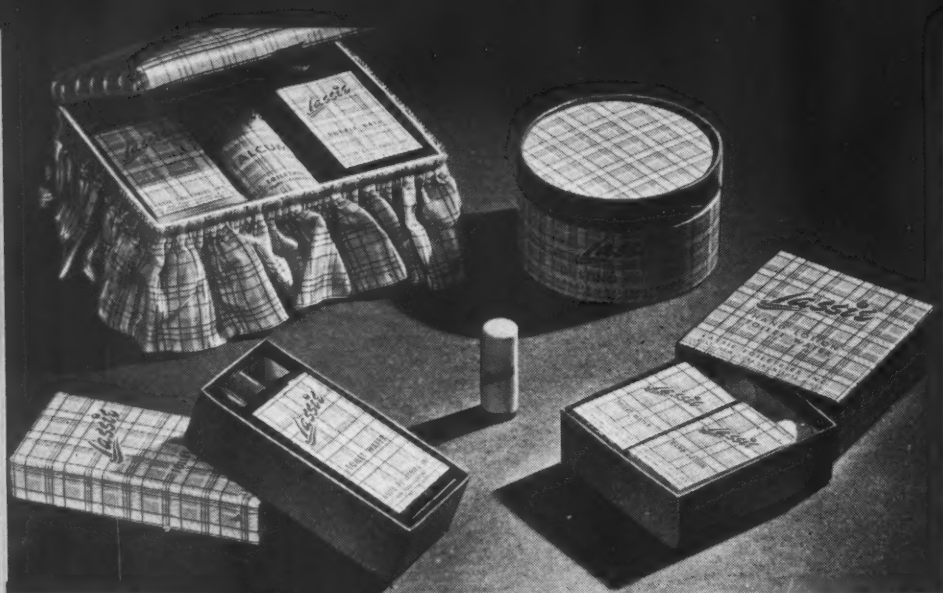
The first are the somewhat more staple lines like Johnson & Johnson, Mennens, J. B. Williams, Z.B.T. baby olive oil talc that mothers buy solely for use and with an eye to economy. In this case brand is extremely important because of the confidence of the parent in the purity of the manufacturer's product and brand identity should be instantly recognizable by color and positioning of informative data. Oftentimes, these items are specially packaged in gift sets, bought by friends or relatives. The J. B. Williams set, with its lovable, cuddly baby illustrations, containing two cakes of soap, baby oil, talc, selling for around a dollar is an excellent example currently on the market (see Fig. 3). Mennen's, J & J and others have had similar combinations before the war and presumably will again now that packaging supplies are again obtainable.

The second are the baby lines bought mostly as gifts by friends and relatives. In this case, the package must evoke exclamations of "How sweet," "How darling" and usually suggests the daintiness of baby blue or baby pink for nursery accessories. Outstanding examples are the Orloff apothecary jars adapted in pink and blue with floral and cherubic designs for baby oil, talc, boric acid ointment, etc., and the charming gift ensemble for Dorothy Gray's baby line packaged in a box resembling a baby's block. These gift lines are usually

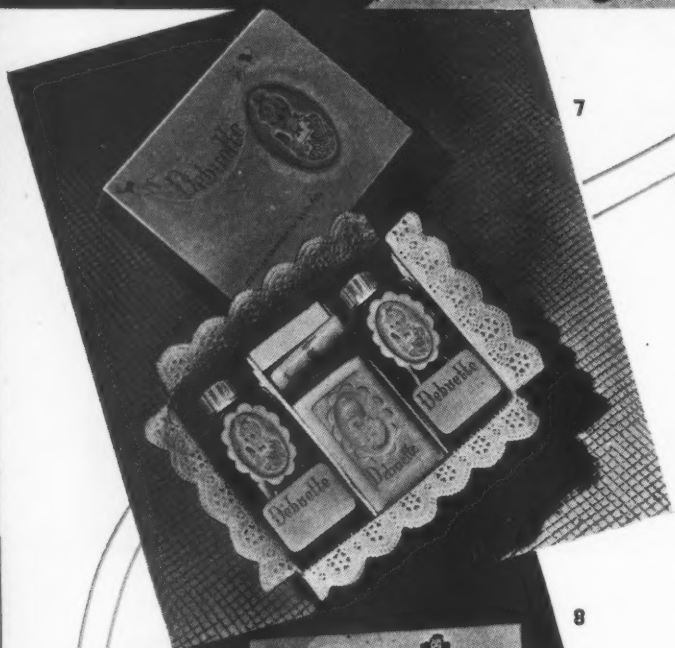
higher in price than the staple items, but there is ample market for both, without either type hindering the development of the other.

Next are the "little girl" lines for the child from perhaps 5 to 12. Initial purchases are usually made by grown-ups because of packages "you just can't resist." The appeal is definitely whimsical and "little girl"—items may be bought separately or in gift combinations—soap, bubble bath, toilet water, hand and body lotion, shampoo, pomade lipstick, sachets, dusting powder, powder mit, etc. The products are designed for getting the child in the habit of good grooming at an early age—to use cosmetics just like Mother does—but of a kind suitable for a child. Examples are Little Lady, put out by Helene Pessl, Sweet and Lovely, Debuette launched by Ali Baby Corp., Judy, 'n Jill, Nine to Five, Lassie, etc.

Helene Pessl was one of the first to venture a complete line entirely planned for small children. How did she happen to start it? Her publicity office thinks it was inspired by her own grandchildren. Her grown-up line had been well established for sometime. From her own experience as a mother she knew what toiletries and what packages mothers like in baby lines and her "Baby Dear" line was a success from the start. But her grandchildren who wanted to pat on



6—Many new "little girl" lines are on the counters for the Christmas trade. A red, green and yellow plaid is the design theme for "Lassie." 7—"Debuette" packages show a little girl using a powder puff and are prettied up with lace and old-fashioned type faces. 8—"Sweet and Lovely" packages are illustrated with two lively little girls, one blonde and one brunette. 9—"Kidmetics" aims to make good grooming fun. Packages are printed with verses to say when using the products.



powder with a powder mit just like Mother and use a lipstick and put on toilet water that smelled pretty, it is believed, were the inspiration for Little Lady. The quaint little girl in pinafore and hair ribbons looking at herself in a mirror already has become a familiar trademark on store counters from coast to coast. So great was the demand for these cosmetics last Christmas that it was impossible to supply it. New York cosmetic buyers rushed by taxi to Helene Pessl begging for more merchandise.

Now Miss Pessl is also coming out with a teen-age line, Melinda, putting this house in a class almost by itself in the cosmetic industry—a line of packaged products specially designed for every age group from the cradle to old age. To introduce Melinda, she has a promotion, "We're growing up," showing the four age groups—baby, little girl, teen-ager and grown-up woman—all of whom are served by the Pessl lines. "Get 'em young, and they're yours for life."

Nothing succeeds like success and many other little girl lines are gaining a foothold. Debuette was announced as grown-up cosmetics for "the little debs" from 5 to 15. Fragrance for Debuette was arrived at by a consumer test—a survey of 16,000 girls in the age group for which the cosmetics are intended. Sample odors were forwarded to 304 girls' schools and summer camps, where trained supervisors recorded the children's preferences. The package illustrates a medallion showing a little girl using a powder puff and is all prettied up with lace and old-fashioned type faces.

Quite a different type of little girl appeal is introduced by the Lassie line, which you are seeing featured in many de-

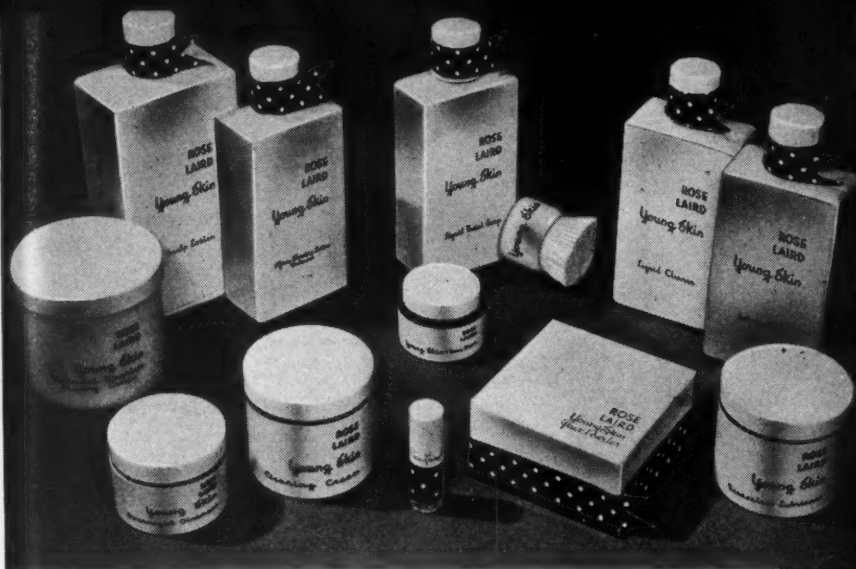


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10—The teen ager demands simplicity in packaging; she wants none of the "little girl" stuff. Thus teen-age cosmetics are often more tastefully designed in their simplicity than those for grownups. Note the simple white containers for Rose Laird line, with blue lettering and polka dot ribbons as only decoration. 11—Dermetics has a dainty ensemble called "Teen Care." 12—Primrose House concentrates on a trim box containing cleansing pads and acne lotion for teen-age skin.

partment stores this month. A red, green and yellow plaid is the theme for Lassie—which gives it, shall we say, a more sophisticated appeal?

Sweet and Lovely packages are illustrated with two lively little girls—one a brunette, one a blonde—who appear on labels and box covers for combination sets containing assortments of cologne, shampoo, hand lotion, soap, lipstick, powder mit.

Kidmetics, announced "as the greatest toiletries show on earth for kids" has package designs with animals, cowboys, clowns, balloons, etc., designed for children perhaps a little younger than 5 to 12. The line, however, is beyond the purely novelty class of story-book soap sculpture and has a sound idea behind it to start good grooming young. The story is told in verse, "Kidmetics—the fun filled way for kids to learn to groom each day." The verse idea is carried throughout the packages—verses on the labels for children to learn and say each day when they use the shampoo, hair trainer, liquid cleanser, skin lotion, bath powder and bubble bath. This line is designed for boys as well as for girls.

So far nothing has been mentioned about the market for boys' toiletries, but there are slightly more young men in the country below the age of 20 than there are girls. They, too, can be trained in good grooming by proper dramatization of the toiletries they use. When Pop comes home from the war, having learned maybe under General Patton that you have to be all well groomed even under gun fire—or maybe because he spent some of his G.I. pay in a South Pacific Isle PX for nice-smelling toiletries since there wasn't much else to spend it on, Pop too is likely to be more conscious of the place men's toiletries have in his personal appearance. At least all indications of the growth of men's lines point that way. It's safe to assume, then, that Junior will want to be like Pop—and he'll want his he-man toiletries trimmed up with cowboys, airplanes, and boats—like Dad.



Helene Pessl already has one item, called Little Lad, designed for little boys—or rather for their parents, friends and relatives to give them.

That there is good business to be found in the 5 to 12 group is indicated by the statement of one house specializing in a line for little girls. They expect their sales in these items, alone, to reach \$1,000,000 next year.

When the little girl enters her teens she begins to have her own ideas about the cosmetics she uses, buys many of them herself and often pays for them with her own money. During these past few years, when jobs were plentiful, many teen agers made money after school hours—or as councilors in summer camps. The teen ager also is usually given an allowance by her parents, which she must budget as she sees fit.

She is beginning to feel grown up. She'll never feel more



13

14—"Seventeen" is another teen-age line tastefully designed with youthful simplicity. Colors are powdery blue with cerise and white. Horseshoe-shaped private-mold bottles give distinction.

grown-up than when she gets her first long party dress and has her first date.

Thus, in that adolescent frame of mind, she will have nothing of the pretty-pretty little girl stuff. Cosmetic packages designed for her must have grown-up appeal. The remarkable thing about all this is that many of the lines designed for the teen-age or the young skin are more sophisticated and beautiful in their simplicity than those selected by her older sisters or her mother.

This simplicity that she demands in her teens, may it be hoped, is a trend toward better taste that will last her through life and it may be a trend for designers to watch. Not that we'll ever reach a millenium without "schmaltz"—but in the words of MODERN PACKAGING's art director—let us hope that it may be "modified schmaltz."

The packages for the teen ager contain products designed for simple beauty care—soaps, cleansing creams, lipstick, face powder, dusting powder, etc. All of them are suitable for all ages and many of the conservative houses do not feel that it is necessary to package specially for the teen-age group, but prefer to direct promotion of the proper products in their regular lines suitable for young skin to the teen age.

A notable example are the newly designed packages for Tone Laboratories. This line containing about 25 items, including creams, lotions, make-up, face powders, fragrance, talc, dusting powder, etc., has been completely done over. It used to be all white with black, silk-screen lettering. Now it has a new logotype in a modern casual script. The lettering and all of the jar closures are a youthful, dusty pink. The powders are in new containers designed with pink background and a darker shade of pink and blue conventionalized

floral motif. The whole line is suitable for promotions in the teen-age magazines, which is being done, although the entire line will also be promoted for all ages.

One of the leaders in the teen-age field is Rose Laird's "Young Skin" line. This line takes into consideration forcefully that bugaboo of splotchy, broken-out skin many adolescents have to endure. Rose Laird's liquid facial soap, greaseless lubricant, ointments, etc., are directed promotionally to the young girls troubled with black-heads, acne, enlarged pores, etc.

The packaging is extremely simple. White jars and opaque white bottles on which the product and brand name are produced in dark blue by silk screen method. A blue and white polka dot ribbon around the necks of the bottles is the only other decoration. The square powder box and the lipstick carry out the same distinctive blue and white polka dot trim.

The Seventeen line is another that is tastefully designed with youthful simplicity. Colors are pink and blue—but oh so different from the ordinary shades—a very powdery gray blue with delicate floral wreaths and just a suggestion of cerise for product name. The horseshoe shaped bottles—also lend a great deal of distinction to the line. Selection was made after a (Continued on page 186)

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14 and 15—Some companies prefer to promote regular lines for the young market, but are redesigning them with teen age in mind. Tone Laboratories has done this. New packages, left; old ones, shown above.

Brilliant reproduction

... new technique for fine printing on boxboard

by William B. Banks*

As much as ten years ago, it had become apparent that the folding box maker could not continue to turn a deaf ear to demands for deluxe reproductions at costs that were really practical. Existing processes had proved unequal to the task. The three methods that were in general use for the production of folding cartons were letterpress, offset lithography and gravure. Each had its advantages and limitations, but none satisfied all of the requirements which customers were demanding.

Flat-bed letterpress printing had long been distinguished for vivid solids and legible type. However, the process was relatively expensive because the limit of hourly output had apparently been reached and the proportionate costs and make-ready time seemed fixed at a high level. Moreover, a serious limitation was imposed by the necessity of using only boxboards with high-grade coated surfaces where halftone effects were desired. Even under these conditions it was essential to employ relatively coarse screens of 100 or 110 lines to the inch.

Offset lithography overcame some of these objections as to press speeds and make-ready time. Furthermore, it was more versatile in respect to producing halftone work on all kinds of stock, even the roughest. On the other hand, this process did not enjoy complete acceptance because its characteristic softness and lack of brilliance in the solids were, in many instances, undesirable for packaging purposes.

Gravure had proved an interesting newcomer in the box-making field, but one of limited usefulness. Its principal economy arose from extraordinary speeds obtained through rotary operation from rolls, but this factor in turn restricted its application in the important field of folding boxes. In addition, there were technical limitations in registering the colors and considerable resistance to the "screen" effect which characterized the type matter.

Our company early recognized that a way must be found to overcome these inherent disadvantages. The whole trend of package design required that color effects be reproduced with extraordinary faithfulness. Halftone screens of 100 to 120 lines per inch on folding boxes must give way to dot formations of such fineness that the human eye would be conscious of no screen pattern. To further enhance the illusion of realism, precision register of colors would be vital. Moreover, the reproduction of delicate screen effects on boxboard must not be accomplished at the sacrifice of brilliant solids. Packaging counsellors were particularly emphatic that there was no place on retail counters for "washed out" colors.

With this premise, we started experimental work and carried it forward despite extreme wartime difficulties. It soon became evident that the key to the problem lay in the development of a press plate unlike anything hitherto used on sheet-fed rotary presses. Plate material must be finely

textured to permit the use of screens and rulings of 200 or more lines per inch. Furthermore, the plate would have to withstand the abrasive action of the various types of cardboards (both coated and uncoated) and permit the use of brilliant new ink pigments without in any way affecting the image.

To digress for a moment, it would be pertinent to state that boxboard is primarily a volume product, made largely of waste material and sold by the ton. To obtain the same quality of surface as is available on better grades of papers would add a prohibitive premium to the cost of carton board.

We found the answer in a remarkable invention which we

1—Actual front panel from a Q-T package. This striking reproduction from a Kodachrome is printed in five colors in 175-line screen directly on clay-coated boxboard.



* Superintendent, Fidel-I-Tone Division, The Lord Baltimore Press, Baltimore, Md.



have designated as the Fidel-I-Tone process. The latitude gained by this invention has permitted engraving techniques previously considered impractical for folding boxes. It has further made possible new ink formulations utilizing synthetic hardening agents to produce more durable and brilliant colors with consequent improvement in usefulness and appearance of the finished product.

More realistic package

The result has been the development of a more realistic "pictorial packaging," dramatically illustrated in the Q-T Pie Crust sample (Fig. 1). We feel that this job introduces a new technique, destined to alter traditional concepts of carton design.

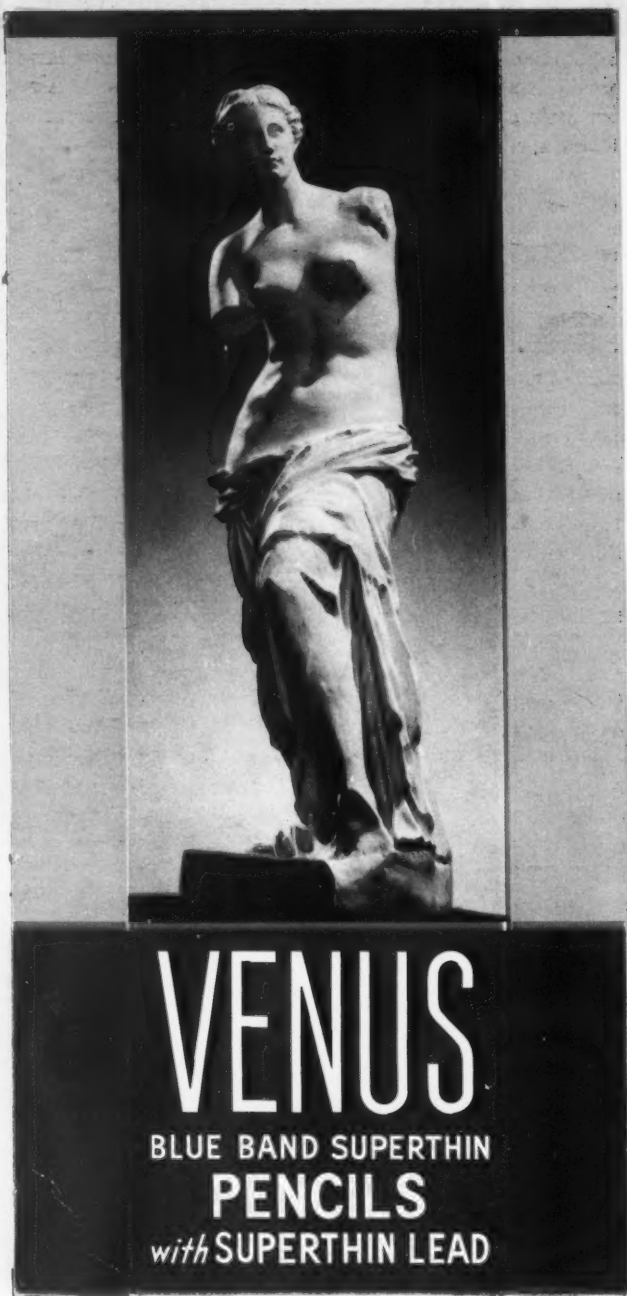
The new Q-T package is an expression of the policy developed by Charlie Reed, president, and Mac Taylor, vice-president, of the Taylor-Reed Corp., as one of the principles of their operation: You've got to punch the product every step of the way to the time the housewife takes it off the grocery shelf—then keep on punching so she will buy it again. That means efficient advertising and plenty of merchandising aids, such as window stickers and displays. But it means something else too. If the housewife steps into the store, perhaps having seen and heard all about the product, and finds a dead-looking, unimaginative package, she is going to be disappointed. In fact, she may very well stick to her old brand or purchase something else for that part of the meal. When she comes into the store, it is the last chance you have to get her to buy. The package will either make or kill the sale. It must inspire not only confidence, but the desire to try the product. It must tell her what the product can do for her.

Months of kitchen research and test tasting in the Taylor-Reed kitchen had finally yielded a pie crust and pastry mix of superb quality, and the decision to market this under the name of Q-T had been made. It happened that the Lord Baltimore Press was looking for an opportunity to demonstrate Fidel-I-Tone on an appetizing food product package. Charlie Reed felt that only color photography perfectly reproduced could do justice to his product. The opportunity on both sides was too good to miss. To assure better store display, it was decided to spread the illustration of three popular types of pie over the fronts and backs of two boxes so that they would join to form a large appetizing picture (Fig. 2).

Photographs of actual pies

First, Mrs. Georgetta Sutton, of Taylor-Reed's testing kitchen, prepared six beautiful Q-T pies—three regulars and three spares, just in case. In the meantime, Kodachrome slides of various pie arrangements had been taken under the direction of The Lord Baltimore Press' package designer, and the best compositions were chosen from a wide assortment of boxes. The final color pictures were taken with Charlie Reed present to supervise the fine details and Hugh Donnell, vice-

2—Design on the carton is so arranged that it makes a continuous picture when two packages are placed together on shelf—front and back panels. Product is designed for mass selling. 3—One side panel is used to give pictorialized directions for using the product; the other similarly presents recipe suggestions. 4—Fine-screen process makes possible the use of a folding rather than set-up box for Venus pencils. The telescoping base portion may be removed and used as a pencil holder.



5—Front and side panels from a Venus box. With the use of 200-line-screen plates, the screen is almost invisible in reproduction of statue. This is a four-color job.

president and art director of Tracy, Kent & Co., Inc., on hand to follow up the work and to get the right atmosphere for the pending advertising campaign.

Within a short time the final package layout had been approved and placed in production in our plant, using the new reproduction process. The package, which is the first full-color example of the Fidel-I-Tone process to reach the market, was placed on sale some weeks ago.

Five color plates

For this job we used five-color plates in 175-line screen, printing on ordinary clay-coated boxboard of .018-in. gauge. The printing operation is about as fast as with a conventional job, although sheets are kept somewhat smaller to insure

exact register and high quality. An over-all press varnish is used, to protect the colors from rubbing.

The pie crust mix is packed inside the box in a laminated glassine and sulphite bag, which is crimp-sealed.

Sales results are, of course, the proof of the pudding. A test distribution in Portland, Me., in June of this year indicated to the satisfaction of Taylor-Reed a tremendous sales potential.

The reports showed that in the self-service chain stores, where the customer is left to her own devices and must be attracted to the package by the package itself, Q-T moved out as fast as it was placed on the shelf. Interviews with both customers and wholesalers on reaction to the package design showed universal enthusiasm.

Other applications

The second example of the new process now on the market is the Venus pencil box, a sample panel of which is attached herewith as Fig. 5. This illustrates a different application of fine-screen reproduction—not for realistic multi-color but for life-like presentation of an art subject such as has heretofore been impossible when the printing has been done directly on boxboard.

The reproduction of the famed Venus de Milo has long been the trade mark of the American Pencil Co.'s Venus line. It not only dramatizes the name, but as the accepted masterpiece of ancient sculpture it carries a connotation of superlative quality which the company wants to associate with the Venus line.

Obviously, an ordinary coarse-screen reproduction would not be satisfactory, particularly since the pencils are largely used by persons who have a certain amount of artistic appreciation.

Previously, Venus had used a setup box with a hinged lid. By using good quality paper and printing for the box-cover paper, a satisfactory reproduction was obtained. It was not thought possible to make use of the more economical folding box by printing directly on the boxboard.

200-line screen

The accompanying illustrations show, however, how successfully this has been done with the new process. This job also uses an ordinary clay-coated boxboard, printed in four colors. The plates are no less than 200 screen, and the Venus reproduction becomes strikingly realistic; the ordinary human eye cannot discern the screen at all. Both salesmen and customers of the American Pencil Co. are reported to be enthusiastic over the new package.

A half-telescope bottom forms a holder for the dozen pencils. This portion of the package is closed at the bottom by glued flaps. The slip cover, which leaves a half-inch "grip" space at the bottom, has tuck-in flaps at the top, so that the user may withdraw pencils either through the top flaps, or by removing the entire bottom section, which forms a handy holder for desk use.

Labeling is simplified and does not mar the appearance of the closed package, since much of the necessary information—patent numbers, etc.—can be printed on the covered base portion.

Further applications of this new reproduction technique in many diverse product fields are now under way.

CREDITS: Boxes produced and lithographed by The Lord Baltimore Press, Baltimore, Md. Q-T box design by Egmont Arens, New York; color photography taken by Robert E. Coates, New York, N. Y.



Pillsbury's packages illustrate the new standard decimal sizes adopted for flour packages. They are (from left to right) 2 lb., 5 lb., 10 lb., 25 lb., 50 lb. and 100 lb.

Fixed flour sizes . . . a simplification achievement

by Wallace F. Janssen*

How the economic advantages of wartime package simplification can be carried over into peacetime has been dramatically demonstrated by forethought and smooth teamwork on the part of the Millers National Federation, in cooperation with the Council of State Governments and the U. S. Dept. of Justice.

In addition to its importance as a package reform that will save millions of dollars in production and distribution overhead for the millers of the country, the activity is of broad interest in illustrating how an industry can quickly get state legislation that it wants in its own and in the public interest.

For more than a generation, flour millers had been dreaming of the day when they might get rid of the hodge-podge of package sizes which had its beginnings in colonial times. In 15 states sizes were fixed by law, in fractions of a barrel. But some states had a 196-lb. barrel; others a 192-lb. barrel. A "sack" of flour was 98 lbs. in some places and 96 lbs. in others, with smaller sizes of 49, 48, 24 $\frac{1}{2}$, 24, 12 $\frac{1}{4}$, 12, 10, 9, 8, 6, 5, 4.9 and 2 lbs. Some states had no restrictions below 6 lbs. Others permitted any size as long as the weight was clearly shown on the label. All in all, it was a situation that was confusing to the public and the distributing trade and expensive to the millers, who had to carry the additional sizes in their bag and carton inventories and pack all of them to meet these varied local requirements.

Then came the war, and with it the necessity to conserve textiles and paper. Adopting trade recommendations, the WPB issued M-221 and L-279, which, among other things, limited the manufacture of packages for flour and meal to the

following sizes: 100, 50, 25, 10, 5 and 2 lbs., with no limit on sizes larger than 100 lbs.

These orders were war measures, effective in all states. Temporarily, at least, they did the trick—all flour and cornmeal sold in the United States went to market in the decimal sizes. And the millers found it good. Their bag inventories were reduced, packing and shipping efficiency was stepped up, precious man-hours were saved, record-keeping simplified. How to preserve these advantages when the WPB orders were revoked immediately became a "dollars and sense" question. The war wasn't over, but nobody could tell how long WPB control might continue.

Then, in September 1944, Herman Fakler, Washington vice-president of the Millers National Federation happened to be talking with John W. Andrews, chief of the Federal-State Relations Section of the Dept. of Justice. While discussing a state legislative problem, Mr. Andrews described the joint machinery developed by his office and the Council of State Governments for harmonizing proposed state bills with Federal requirements and with those of the various states.

This procedure, perhaps the leading weapon to date against so-called "trade barrier" legislation, begins with the clearing of proposed state bills by the Dept. of Justice with other departments of the Federal Government which have jurisdiction over the same subject matter. After this is done, and the Federal agencies have made their suggestions, the bills go to the Drafting Committee of the Council of State Governments, composed of state attorneys general and other state officials, for editing and approval. The process provides a

* Editor, Food-Drug-Cosmetic Reports, Washington, D. C.

TABLE I—TYPICAL EXAMPLES SHOWING DIVERSITY OF FLOUR PACKAGE LAWS BEFORE PASSAGE OF UNIFORM "FLOUR AND MEAL CONTAINER ACT"

	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	<i>lbs.</i>	
Ala.	98	48	24	12	6	2	.....
Calif.	98	49	24 ¹ / ₂	9.8	4.9	2	.....
Ga.	96	48	24	12	6	...	No restrictions under 6 lbs.
Idaho	98	49	24	12	...	...	No restrictions under 12 lbs.
La.	98	48	24	...	...	...	.....
Mich.	98	49	24 ¹ / ₂	12 ¹ / ₄	6 ¹ / ₈	...	No restrictions under 6 ¹ / ₈ lbs.
Miss.	98	48	24	Atty. General ruled that 12-, 6- and 2-lb. packages may be sold			
Neb.	98	48	24	10	5	...	No restrictions under 5 lbs.
N. C.	98	48	24	12	6	...	No restrictions under 6 lbs.
Ore.	98	49	24 ¹ / ₂	...	9.8	...	No restrictions under 9.8 lbs.
S. C.	96	48	24	12	6	...	No restrictions under 6 lbs.
S. D.	98	49	24 ¹ / ₂	10	5	...	No restrictions under 5 lbs.
Tenn.	98, 96	48	24	12	6	2	.....
Va.	98	48	24	12	6	...	No restrictions under 6 lbs.

means for writing state law from the viewpoint of national interest.

The Drafting Committee meets once a year, in Washington, for final action on such measures as are deemed desirable for passage. When it has completed its work, the bills are incorporated in a report on "Suggested Legislation" which is circulated to the state governors, legislatures, department officials and other interested persons. The entire procedure

was originally developed as a means of getting quick action on state war emergency laws. It worked so well that it is being continued as a postwar activity.

The upshot of the discussion between Messrs. Andrews and Fakler was that the millers popped their flour packaging schedule into the Council's hopper and saw it come out labeled as a 1945 state legislative recommendation. In reporting this uniform Flour and Meal Container Act to the states, the Council explained its purpose and background, the problem and the solution.

Under the heading of "Problem" the Council clearly stated the emergency character of the legislation and the need for immediate action. This interpretative statement reads as follows:

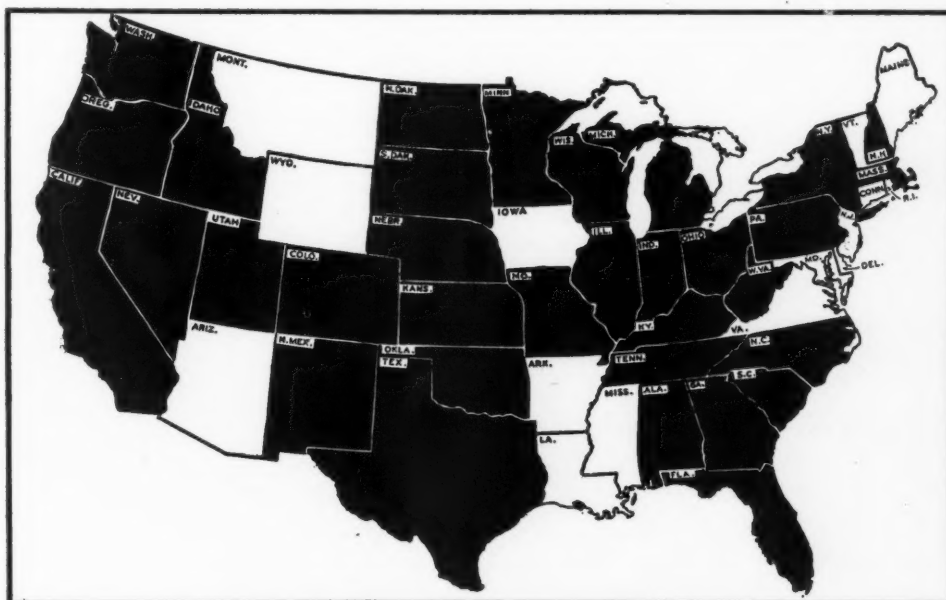
"Two states, Kentucky and Texas, have recently enacted legislation which requires flour to be packed in the sizes established by the WPB order. The Kentucky law will become effective after the expiration of the 'National Emergency.' The Texas law has been in effect for almost a year.

"In other states, when the WPB's orders are rescinded, if no legislation on flour and meal packaging is adopted now to carry on the highly desirable standardization of flour and meal packages there will be a return to the old sizes required under a diversity of state laws, with resulting confusion to the industries and to consumers.

"The sizes of containers for flours and meal provided for in the WPB's orders, M-221 and L-279, are now in use throughout the entire country. The bag manufacturers supply only these sizes to millers, and millers have on hand inventories of these sizes only. In the absence of legislation continuing the standardization now in effect, millers engaged in commerce in more than one state will again be compelled to carry large inventories of all sizes of bags with consequent unnecessary use of textile and paper materials. Also, consumers of flours and meals throughout the entire country, who have now become accustomed to the uniform standard sizes established during the war emergency period, will be confused in making their purchases, and will be unable to evaluate directly the price and quality of competing brands. Freight costs would not be increased by the proposed standardization of bag sizes, a return to the old multiplicity of sizes would place an unnecessary burden on producers, distributors, and consumers alike."

Under "Solution," the Council (*Continued on page 184*)

States in color show the "score" for uniform flour and meal packaging which millers rolled up during '44-'45 legislative season. With the exception of Montana, white states were not in session. Only three states are left which have laws that actually conflict with Flour and Meal Container Act—Mississippi, Louisiana, Virginia.



Tags that tell—and sell... a planned program

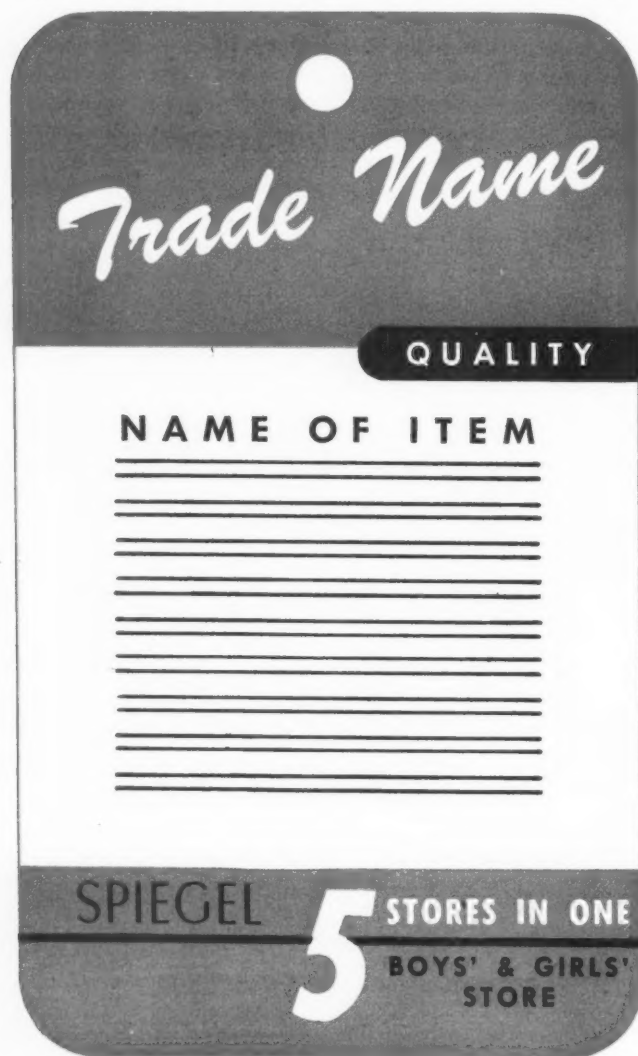
by Rose Epstein*

Informative tagging has proved to be a flexible, inexpensive and increasingly valuable sales aid. Much has been written about the necessity for these tags, notably by consumer organizations which stress their importance as a buying aid to the customer. Tags are even more important to the distributor, for they help sell—and help sell better quality. They push the higher-priced item by explaining quality differences which are not immediately apparent—"hidden values." This also does much to avert price-cutting competition.

Organizations which have introduced tagging programs into their merchandising plan find that tags do a responsible selling job, both in the store and in the home. Being at the point of sale, they are the logical supplement to advertising,

* Merchandise Information Coordinator, Packaging Methods Department, Spiegel, Inc.

1—Sketch shows basic formula for Spiegel's "Selltags," including use of two sharply contrasting colors. With the five principal elements shown, shape and colors of tags may vary according to nature and color of merchandise.



immediately identifying your trade name and continuing your sales story. While providing sales personnel with talking points, they can also stand alone, increasing impulse buying perceptibly. Equipped with thorough, explanatory copy, they resell, convincing the customer of having made a good buy. They cut down returns.

This latter feature is particularly useful when tags are used in mail-order selling. Mail order merchandise does not receive the final "boost" that a similar article would get on display in a retail store, with a sales clerk to help put it over. Hence, the informative tag is an important adjunct to the mail-order catalog.

At the end of this article is a check list which shows the variety of copy points your tag can cover—points touched on only lightly here, as our primary concern is with the program itself.

To accomplish an efficient job, tags should be carefully planned. An intensive tagging program can be compared to an advertising campaign, in that copy objectives must be established, layouts created and production planned. The time sequence of advertising does not, of course, apply to tags. Here they are more aptly described as being part of the "package"—the final product which your customer actually receives. The point is, that to get the most out of each individual tag and to assure best results for the program as a whole, careful analysis is necessary.

After establishing a general copy outline for all tags, the same care should be given to the individual tag, so that none of the salient information is omitted. The manufacturer can, in many cases, supply this information; otherwise the U. S. Testing Laboratory, any commercial laboratory, or—if space and budget permit—your own laboratory, can provide the necessary data. Proper presentation and the addition of many hidden sales points turn this information into selling copy.

Spiegel, Inc., one of the nation's largest mail-order houses with over 100 retail and catalog-order stores, is now instituting an informative tagging program. The steps taken in the Spiegel "Selltag" program from its inception will serve to illustrate a specific example, which can be applied generally. Even in a tag family of only two or three, a similar copy and art breakdown can be followed. "Selltags," which will cover both our retail and mail order divisions, are now in the original design stage. A general copy plan, layout and color combinations have been worked out by the Packaging Methods Department, headed by Walter Stern.

In approaching the problem of tag design, first consideration is given to copy. This must be presented in the proper reading order, with emphasis in the proper places. Separate copy elements we have decided to carry on the front of the "Selltag" are: trade name (and copyright data where required), quality gradation, name of the article itself with a block of informative copy, and the Spiegel logotype. Spiegel's recently inaugurated "5-Store Plan," which divides our catalog into specialty shops (Fashion Store, Men's Store, Children's Store, Home Furnishings Store and Farm-Hardware-Auto Store), extends also to our development in the

retail field with specialty shops in the five groups mentioned, rather than department stores. The name of the store will be tied in, on the tag, with the logotype. The back of the tag will carry instructions for care and usage of the article. This rule for body copy can be only generally true, varying to some degree with the merchandise.

Copy decisions reached, the idiosyncrasies of large-scale tag design enter the picture. First of all, the design must be simple enough to adapt easily for use on any item or any size tag. In a program of any dimensions, the basic design should be applied in all cases. Uniformly designed tags will not only identify merchandise immediately but will also greatly facilitate tag production. Such design also tends to reduce the tag to its simplest, most understandable terms, making for a more strictly utilitarian selling tool.

Basic design of the "Selltag" is a round-corner rectangular tag (Fig. 1), divided into five horizontal panels and printed in two colors on white stock. One color is used in the top and bottom panels with the trade name in reverse at top and the logo and store name in reverse at bottom. The use of color here, and the lettering style selected, draw attention to these important panels. Beneath the trade name panel is a much smaller panel, in the second color, with the quality gradation ("Value," "Excel" or "Supreme") in reverse. This color is darker than the first and is also used in the middle, largest panel, on white, for the name of the article and the body copy.

The use of simple horizontal panels will be a great aid under a tough production schedule because the various parts can be pre-cut and quickly assembled to make up a new tag.

"Selltags" are grouped according to the five stores, keeping the same basic design throughout but changing the color combinations for each store in order to arrive at colors well suited to the merchandise. Within each store we have also chosen a different, but harmonious, color combination for each quality gradation. For instance, in the Fashion Store we have used pastel tints with a contrasting darker color and in the Farm, Hardware, Auto Store, strong bright colors with black.

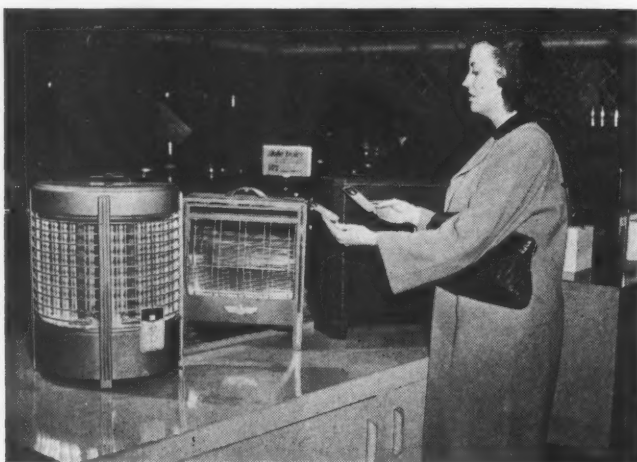
All the color combinations have been selected with great care and are decidedly out of the ordinary. With our extremely simple layout, distinctive color schemes are especially essential. Furthermore, color's psychological effect on the customer is of prime importance. Not only must the colors show up to advantage when the tag is placed on the merchandise, but they must also convey the proper atmosphere—of delicacy, cleanliness, ruggedness, etc. In the same way, lettering styles for the trade name panel are descriptive of the merchandise, while all body copy will be restricted to a single type face. The type face selected must be legible, versatile enough to combine with many lettering styles, and available in all sizes and weights.

The "Selltag" is a clean and simple yet forceful tag. It will display well, handle a thorough copy job and will retain its identity despite necessary variation. This variation might be a change in shape (many stock dies are available and



2—Seeing it in print is often more convincing to a buyer of apparel than the best verbal sales story. The tag helps associate a trade name with a definite set of values.

3—The tag carries the sales message home, where it may be examined at leisure and convey a more lasting impression. The tag also carries instructions for care of the garment. 4—Close-up of a typical "Selltag" for a line of Spiegel dresses. Here the price denotes the quality range and a complete sales message is put across.



5

special dies can be cut) for special display value, omitting the quality panel in some instances, changing the proportions slightly, etc. Colors, logo and lettering styles of the "Selltag" program will be coordinated with Spiegel's over-all package design program, now in the formative stage.

Production advantages and limitations have been kept in mind throughout the designing process. For instance, in designing tags it is well to remember not to overprint colors and not to depend too much on very fine lines or ticklish registration. Tags are printed on special high speed presses which can print both sides and as many as three colors on each side or up to five colors on one side (depending on the size of the tag) in one run. As to the use of two colors, in tag printing, unlike process work, the cost of additional color is negligible.

Illustrations will be used on "Selltags" whenever necessary to do a more adequate selling job. These will probably be line cut, although half-tones up to an 85-line screen can be reproduced satisfactorily. Merchandise to be tagged will determine whether the tag is to be strung with string or wire, or die-cut to attach to buttons, etc. Size of the tag will be decided in like manner; standard sizes can be determined which will cover most needs.

As soon as production is actually begun, a form number will be given each tag and a sample file set up. It may also be helpful to include on the tag the month and year of its origination. A large scale tagging program is a long range project; this is especially true today with limitations on both merchandise and tags. To activate our "Selltag" program, consultations will be held with various members of our Buying Division to determine which merchandise will be tagged first. After the initial schedule, tags will continue to appear regularly until their usage is housewide.

Care must be given a tagging program after it has been put into effect so that new ideas or necessary revisions can be incorporated in it. It is easy for tags to fall below standard when initial enthusiasm has worn off, and easier still to let variation in design be permitted little by little until uniformity is lost. Therefore, it is a wise idea to check all tags periodically against the original copy and design plan. This does not in any way preclude (Continued on page 182)

6

7

5—Informative tagging will heighten sales appeal of furniture on floor display; will tell shopper what she wants to know about quality, construction, price. 6—Tags will point out clearly "hidden differences" between two grades of appliances, often lead to higher sales of the higher quality. 7—For items which must be assembled at home, the instructional tag does a particularly important job. Such tags may be illustrated with sketches.



1



2

1—Expendable pallet of treated fibreboard weighs only 27 lbs. in size shown; will handle load of 3,500 lbs. in transit, or 10,500 lbs. tiered three high. 2—R. B. Light, of Upjohn Co., tests sample channel from pallet.

Looking ahead in Detroit

. . . new packagings on exhibit

Postwar methods for more efficient packaging of automotive parts, tools, foods and a number of other consumer products were critically examined by industry representatives during an unusual three-day exhibit of packaging and shipping materials in Detroit recently.

The exhibit, sponsored by L. T. Swallow & Associates, Detroit packaging engineers and designers, brought together a number of interesting developments by several packaging suppliers. It served, particularly, to attract the interest of top management men in the automotive industry, who during the war have become very conscious of packaging problems.

Visitors viewing the displays demonstrated special interest in the adaptation of war-born materials and techniques to peacetime packaging. There was a distinct emphasis on the protective role which packaging is expected to play, with secondary but none the less serious attention directed to such factors as convenience of handling and merchandising value.

A dominant line of thought among those attending the exhibit was recognition of the fact that the original cost of a container is only part of the story—that true packaging costs can be determined only by following the entire operation through from the actual packing of the product until it is finally unpacked and placed in use by the ultimate consumer. With labor and material costs appreciably above pre-war

levels, improved packaging is looked to hopefully by production men as a possible offsetting factor, to a small degree, in bringing goods to the postwar consumer at reasonable price levels.

Whereas, prior to the war, individual suppliers of automotive parts were inclined to pass the packaging problem along to the larger organizations for which the parts were produced, there now appears to be a trend toward handling the packaging operation directly in the plant of the primary producer. This new attitude toward packaging, largely an outgrowth of wartime experience by subcontracting firms, finds automotive parts men intensely interested in any packaging development which offers better protection against corrosion and other forms of damage and which will facilitate the movement of parts through normal channels of distribution.

Those faced with shipping problems directed much of their attention to a new expendable "one-time" pallet (1)* designed for fork truck handling. Weighing only 30% as much as wood and having an original cost less than half that of a wooden pallet, the product is fabricated of corrugated fibreboard treated with a chemical process which seals the pores of the paper, rendering it substantially weatherproof and very strong. Pallets of this material are capable of supporting 100 times their own weight, it is claimed. A 48-by-

* Numbers in parentheses refer to credits at end of this article.

48-in. single-faced pallet displayed was supporting a 3,500-lb. load of building tile, for a total pressure of 218 lbs. per sq. ft.

The process employed in the production of the pallets was developed during the war, when the company built disposable forms used in the production of P-T boat components, gas tanks and other military products. The material is laminated with a waterproof glue and formed by a pressure operation, then dipped in a hot chemical solution under closely controlled conditions. The dipping and tempering operations are varied in accordance with the particular application to be served by the finished board. Samples of treated and untreated paper in trays demonstrated the high resistance of the processed material to water and oil penetration.

Specific advantages claimed for the lightweight pallet include elimination of return freight, repairs, replacements and bookkeeping. It was pointed out that such a pallet could be considered as a package, to be delivered to the receiver of the palletized products and discarded at destination like a carton. Made in both single-face and double-face styles, the pallets are individually engineered for the particular loads to be handled. Cap sheets of the same material are also available. The pallets have no nails, burrs or splinters to tear fragile products or damage floors. Slotting will also make possible the application of strapping over the load in either direction, where required.

In addition to the expendable pallet, several other material handling items at present in the development stage were on display. Among these was a tote box (1) weighing but 4 lbs., yet so strong that a man could be safely lifted in it. An expendable skid-box (1), similarly processed, was also exhibited. This box, it was said, could be economically discarded after a single trip because of its modest original cost and extremely light weight.

Automotive men closely examined an experimental fender wrap (1) molded of corrugated paperboard to fit the fender

contour. Such wraps would be used to guard fenders in shipment against chipping and scratching. Each wrap is made in two plies of B-flute corrugated board, die-cut and formed to a smooth finish, but not impregnated or otherwise hardened. Edges are turned beneath the fender lip and secured to the lower side with tape. Fenders thus protected can be nested and crated together, reducing wrapping costs and eliminating individual crating.

A wide variety of folding and set-up paper boxes for such products as foods, automotive parts, household appliances, soaps, radio parts and other consumer goods was shown. Although essentially of pre-war vintage, a number of the containers incorporated window treatments, recently developed combinations of materials or special construction features. In the latter category was a self-locking paper-board box (2) used for packaging automotive fuel pumps, so designed that it will remain firmly closed without the use of tape or other fastening agents.

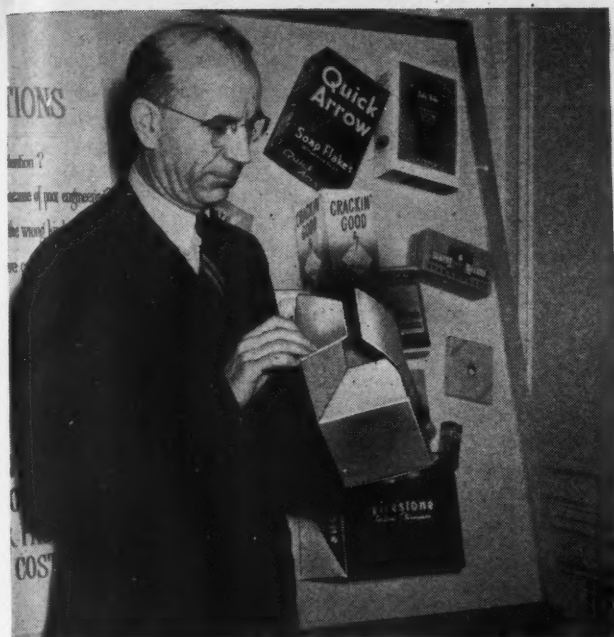
Two types of ethyl cellulose stripping compounds (3), for both hot-dip and cold-dip applications, were suggested for their possible applications in many of the postwar packaging fields.

More nearly transparent than the formula employed during the war for the strip-coating of small metal parts for military use, the hot-dip compound is recommended for such applications as gears, pliers, hammer-heads, cutlery and other hardware products where protection against corrosion and mechanical damage is essential. This compound is used at a dipping temperature of 275 deg. F., or about 100 degs. lower than that used during the war for the military version of this material. The view was expressed that the safer dipping temperature and increased transparency more than offset some reduction in the mechanical strength of the film for civilian uses.

The cold-dipping compound, available either clear or colored, may be applied by dipping, spraying or brushing.

3—F. F. Holt (left), package engineer of the GM Truck & Coach Division, and R. L. Walker, Jr., of the merchandising department of the same company, examine a heat-sealing laminated kraft and aluminum foil sleeve recommended for the packaging of gaskets and other automotive parts. 4—R. A. Hickman, assistant chief of the Packaging Branch, Office of Chief of Ordnance, peels ethyl-cellulose strip coating from a sample sheet of metal. The display board at the right shows applications for both hot and cold dip coating.





5



6

5—Ed Meyer, Ford Motor Co., examines self-locking carton used to package AC fuel pump. 6—L. W. Johnson (right), manager of parts distribution, General Motors Parts Division, and Tom Cone, of Mehl Mfg. Co., check shipper bag with pressure-seal closure, adaptable to either auto parts or free-flowing hygroscopic materials.

Possible applications are seen in the protection of metal golf club heads and other sports equipment, as well as in shielding automobile bumpers, grilles and other brightwork against corrosion.

The film which is produced by this material is quite thin and can scarcely be seen on casual observation. It need not be removed from such products as golf clubs after purchase, but may be left intact for subsequent protection of the equipment in use.

Self-sealing pressure sensitive tapes (4) for a variety of applications illustrated the widespread adaptability of this type of material for decorative uses, as in gift wrapping, and for industrial applications, such as identifying parts and sub-assemblies—a use greatly expanded during the war. Printed tapes were displayed in rolls, as supplied to the use and also as applied to such products as automobile mufflers. They provide a rapid, reliable and economical method of marking metal products and other objects not readily identifiable by other methods.

A focal point of the Detroit exhibit was the large display (5) featuring various types of flexible packaging materials and illustrating the wide adaptability of modern foils, films and laminations in postwar packaging of everything from foods to gaskets.

Among the many interesting items shown and discussed in this display were protective case liners and covers of papers, parchments, films, foils and textiles; sewn specialties made from films and textiles for a number of industrial and consumer packages; protective self-sealing consumer packages of cellophane, foils, films and papers, and shipping bags of laminated textiles and reinforced papers with pressure-seal closures, for use with free-flowing products.

In addition to these flexible packaging materials there were mothproof foil garment bags, some laminated with kraft and combination bags for shirts, lingerie and miscellaneous paper and textile products, with cellophane front and paper back, as well as another line of garment bags fabricated entirely of cellophane or cellulose acetate film.

A coated kraft envelope (5) laminated with aluminum foil aroused much discussion among automotive visitors regarding its possible application in the packaging of cork and metal gaskets and other parts. Previously, plain kraft bags have found general use for this purpose, but in protection against moisture-vapor transfer they are said to leave much to be desired.

This new combination envelope is highly moistureproof, waterproof and heat-sealing, being treated on the kraft side with a thermoplastic resin. It prints attractively on the outer (foil) side and is recommended for export as well as domestic shipments of automotive parts requiring a high degree of protection.

Heat-sealing frozen food bags (5) of laminated aluminum foil and paper were also exhibited, the foil in this instance forming the inner surface of the package. Such bags may be found highly acceptable for the packaging of frozen foods because they are leakproof, non-toxic and highly moisture-proof.

Packaging men at the exhibit expressed interest in the wide variety of heat-sealing sleeves (6), described as presenting unusual advantages in the packaging of miscellaneous parts and other products. The sleeves displayed included laminations of kraft to cellulose acetate, kraft to aluminum foil, and other combinations, each having distinct characteristics from the standpoint of resistance to water, grease, water-vapor, etc. It was pointed out that such sleeves make it unnecessary to maintain large inventories of bags in different sizes, since they are supplied in rolls of several widths and are readily cut to proper length for packaging either a short or long object.

CREDITS: (1) Laminite Products, division of Old King Cole, Inc. Canton, O.; (2) United Paperboard Co., New York, and Wayne Paper Box & Printing Corp., Fort Wayne, Ind.; (3) Flint Chemical Co., Detroit; (4) International Plastics Corp., Morristown, N. J.; (5) Mehl Manufacturing Co., Cincinnati, O.; (6) Bulkley, Dunton & Co., New York.

1—Tight-wrapping fish individually in Pliofilm helps preserve them and facilitates handling while eliminating odor. Machine for this is being developed.



Iceless pack for seafood . . . air-borne

by Dr. Spencer A. Larsen*

Rich in tradition, the catching and marketing of fish dates back to antiquity. Possibly because of its respected age and envied traditions, the fishing industry has been slow to adopt new ways of doing an old job. Today, however, both the "men who go down to the sea in ships" and those who process and distribute products of fisheries are scanning commercial horizons for a way of delivering intact to distant markets the delicate flavor of mountain trout and the tangy freshness of Florida pompano.

Despite their popularity on the dining tables of America, products of the fisheries can boast more than their share of public disdain. But why should people look down their noses at fish or at the men who catch and market annually over four billion pounds of seafood? That people do so is indicated in such uncomplimentary expressions as "the poor fish," "the little shrimp," "the old crab," "the sucker."

The industry is well aware of this public scorn and its more alert members realize the effects of such an attitude upon their money incomes. As a consequence, steps are being taken to establish new levels of respectability for the delectable products of the sea. To achieve this may involve numerous changes in methods of operation—changes that may present sharp breaks with time-honored traditions. Too, the U. S. Fish and Wildlife Service, through its market development section, is bending every effort to improve the market opportunity for fishery products.¹

Foremost in the thinking of those who are earnestly exploring the problem is a combination of new facilities, such as plastic films, light-weight containers, mechanical refrigeration and the airplane—all now available to serve industries plagued with the ill effects of the passage of time upon their

products. In view of the proved capacities of these time-saving and time-arresting facilities in the marketing of perishables generally, it is little wonder that the fishery industries are eying these facilities with great interest.

It was with the hope of making some contribution to a better way of packing and shipping seafood that Air Cargo Research at Wayne University, with the aid of its sponsors—United Air Lines, Pan American World Airways System, A & P Food Stores and the Goodyear Tire & Rubber Co.—and in cooperation with the U. S. Fish and Wildlife Service, embarked upon a program of research pertaining to the prospects and problems of shipping fresh fish by air. A reconnaissance survey indicated clearly the need for a clean break with traditional methods of packing fishery products.

Conventional containers for shipping seafood

Fish are now transported in wooden boxes of varied dimensions and weights. These boxes range in size from 50 to 200 lbs. capacity. A wooden container designed to ship 50 lbs. of fish weighs about 20 lbs. itself and calls for 30 to 35 lbs. of ice—being re-iced as often as is necessary. The shipping of 50 lbs. of fish in the conventional manner requires about 50 lbs. of container and ice. This ratio lessens as the size of the container increases but in no case does the box and ice weigh less than 70% of the net weight of the fish.

These wooden containers are purchased at an average cost of about 1¼ cents for each pound of seafood capacity. A box designed to carry 50 lbs. of seafood costs in the neighborhood of 62 cents.

Obviously, the conventional fish pack is unsuited for air shipments. Indeed, it is doubtful if the usual method of packing fresh fish is the best method for shipment by Railway Express and truck, provided the shipment arrives within a

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¹ See "Dry-Ice Control," MODERN PACKAGING, March, 1944, pp. 158-160.

period of 24 to 30 hours or even longer, if mechanical refrigeration is used. Since steady and significant progress is being made in adapting the airplane to the task of carrying cargo, surely the time is at hand for an appraisal of conventional fish packs for air freight. Conventional methods of packing fresh fish are found wanting because:

1. There is too much useless weight.
2. Water from melting ice is a constant threat of damage to other cargo.
3. Melting ice would spread objectionable fish odors throughout the cabin.

Obviously, air shipment (and possibly other modes of transportation that can offer either dry refrigeration or delivery within 24 hours) demands a totally new pack for the most advantageous handling of fresh fish.

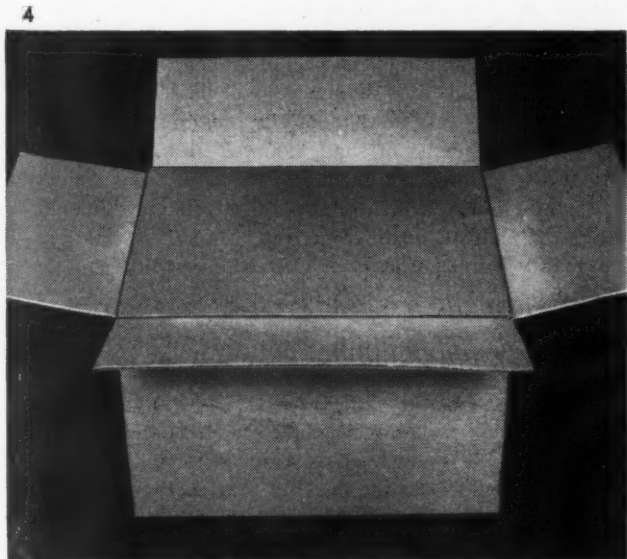
Specifications for iceless container

In an effort to develop new packaging facilities that would make possible the introduction of a new principle in the shipment of fresh fish, Air Cargo Research at Wayne University set forth the following specifications and enlisted the aid of the Goodyear Tire & Rubber Co. and the Hinde & Dauch Paper Co., in producing suitable films and containers—minimum facilities for an iceless fresh fish pack.

Specifications set forth for an iceless container were:

1. It must be an inexpensive, single-use container.
2. It must be light-weight—not to exceed 10 to 15% of the gross weight when packed for shipment.
3. It must be of such a size and capacity that when loaded it can be handled by one man. (Capacities of 40 and 60 lbs. were suggested.)

2—Brook trout ready for test shipment from Helena, Mont., to Detroit. In this case fish were not individually wrapped but were placed in inner bag of 170-gauge Pliofilm inside two corrugated cartons, the bag being heat-sealed at top. **3—Inner carton closed, showing insulating material that surrounds it.** Pre-cooled to 34 deg., the trout had risen only a safe 10 deg. on arrival in Detroit 22 hrs. later. **4—Liner of corrugated over top completes the iceless, insulated pack.** Both the inner and outer container flaps are sealed securely with tape.



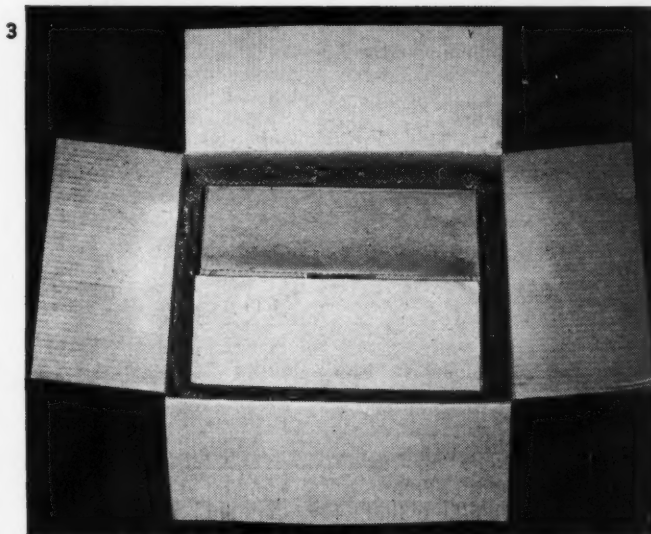
4. It must be insulated so as to eliminate the use of dry ice or water ice when shipped without the aid of mechanical refrigeration.
5. It must be so well insulated that seafood placed in the container at a temperature of 33 deg. F. will still be under 50 deg. F. 24 hours later when the outside temperature is 75 to 80 deg. F.
6. It might be constructed in independent units so that it might be adapted readily to shipment in either refrigerated or non-refrigerated vehicles.

Specifications for inner packaging

The film to protect the natural moisture supply of the fish and to prevent the container from becoming soaked with moisture and drippings from the seafood had to be:

1. Moistureproof.
2. Light in weight.
3. Plastic (for a snug wrap) and capable of a quick moistureproof seal.
4. Of sufficient strength so as not to burst from the weight of the fish.
5. Crack-proof at temperatures as low as 33 deg. F.
6. Inexpensive.

Postwar-quality Pliofilm appeared to meet these specifica-



tions remarkably well. It was found that 170-gauge Pliofilm was suitable as a liner for the carton and a sheet of 120-gauge Pliofilm was suitable for stretch-wrapping the individual fish (Fig. 1).

From the standpoint of preservation, it might not be necessary to wrap each fish individually, but to do so would certainly be a great favor to those who are called upon to handle raw fish. A soft, dressy, transparent covering of Pliofilm would not only correct most of the unpleasantness in handling fish in wholesale and retail outlets, but would also provide a measure of sanitary protection to consumers. Moreover, the film would permit the customer to see and, even without removing her white gloves, to feel the fish for condition. Even more important perhaps, unpleasant odors in the fish department could be entirely eliminated with strictly fresh fish in Pliofilm.

Goodyear now has under development a machine which will package fish in Pliofilm automatically, molding the film in intimate contact with the contour of the fish. The film is sealed around the periphery, squeezing out excess air. The machine accommodates itself to a wide variety of sizes and shapes of fish.

Development of insulated container

With the above stated objectives and specifications in mind, Goodyear supplied an experimental quantity of Pliofilm and Hinde & Dauch designed and produced an experimental iceless container. (See Figs. 2, 3 and 4.)

The complete iceless container unit consists of an outer carton lined on the inside with regular Hinde & Dauch "Thermocraft" insulation; and an inner carton lined with Pliofilm. Detailed data on the weights, dimensions and costs of the container and inner-lining envelope appear in Table I.

The inner and outer cartons are of regular slotted style and constructed of double-faced corrugated fibreboard, 200-lb. test, "A" flute double-face, with two 0.016 kraft liners. The outer box, in both sizes, is lined with one 8-ply, 25-lb. kraft liner, with top and bottom pads of the same material for insulation. The bottom pad is die cut with 4 holes in

which single-faced strips are rolled and inserted to carry the weight of the load. Kraft was used throughout to reduce shipping weight to a minimum.

The inner container is lined with a moistureproof bag made of 170-gauge Pliofilm. The seafood is packed in the inner container (Fig. 2), and the Pliofilm envelope is heat-sealed at the top to prevent moisture from getting to the container and thereby lessening its strength and insulating efficiency. Both the inner and outer containers are closed securely with strips of tape and become virtually air-tight.

Time-temperature test

Once the container unit was built, it was necessary to make appropriate tests to ascertain whether or not it would meet the specifications originally set up.

All other specifications being met, it was decided to make a 48-hr. running test of the insulating efficiency of the container. Accordingly, it was filled with fish pre-cooled to 33 deg. F., placed in normal room temperatures of 75 deg. F., and temperature readings taken hourly.

The time-temperature test pointed to a most promising possibility for this iceless method of shipping seafood. The hourly rise in temperature was uniform and slow, averaging only $\frac{1}{2}$ deg. per hour over the 48-hr. period.

Two test shipments were made to check the reliability of the findings in the preliminary test. On Oct. 5, 1945, a 100-lb. shipment of brook trout was made from Helena, Mont. The fish were cooled to a temperature of 34 deg. F. and shipped by air express in three iceless containers. Upon arrival in Detroit 22 hr. later, the temperature of the trout was 44 deg. F.

A few days later, on Oct. 10, a shipment of Lake Huron whitefish was made to the Fish and Wildlife Service at Washington. The temperature of the whitefish before being taken to the airport in Detroit was 40 deg. F. Upon arrival in Washington six hours later, the temperature was only 3 deg. higher.

Additional tests will be required to see what, if any, difference there may be in the shipment of various species of seafood as well as fresh fish that have been out of the water for varying periods of time. Experiments to date, however, indicate that in principle an iceless pack for fresh fish is entirely practical. It offers a high degree of flexibility in shipping by various modes of transportation, both with and without temperature controls. When the shipment is transported with the aid of mechanical refrigeration, the outside container and its insulation can be dispensed with, thereby saving both the cost and the weight of this part of the container unit.

Although commercial shipments will be required to completely validate this method of shipping fresh fish, experimental air shipments of shad, flounder and cod from Connecticut to Detroit; whitefish from Detroit to Washington, D. C.; brook trout from Montana to Detroit and salmon from Seattle to Detroit, all have arrived at their destinations in top-quality condition and remained so, according to a group of fish experts, five to six days after receipt.

Conditions for successful use

In view of the fact that the fisheries, transport agencies and distributors are arranging to make commercial shipments of seafood without ice, a word of caution is in order at this point. It should be borne in mind that there isn't anything redemptive to quality in this method. Stale fish are still stale regardless of how they are shipped.

TABLE I—DATA ON ICELESS SEAFOOD CONTAINER

Container factors	Container "A" 40-lb. capacity	Container "B" 60-lb. capacity
Weight of container and inner-lining envelope	4 $\frac{1}{2}$ lbs.	6 lbs.
Per cent gross shipping weight	11.2	10.0
Dimensions		
Outside container:		
Length	17 $\frac{3}{4}$ in.	30 $\frac{1}{4}$ in.
Width	13 $\frac{7}{8}$ in.	13 $\frac{1}{2}$ in.
Depth	11 in.	11 $\frac{1}{4}$ in.
Inside container:		
Length	15 $\frac{1}{8}$ in.	27 $\frac{7}{8}$ in.
Width	11 $\frac{1}{8}$ in.	11 $\frac{1}{8}$ in.
Depth	8 $\frac{1}{2}$ in.	8 $\frac{1}{2}$ in.
Cost* of container unit complete (Except for envelope)	\$0.44	\$0.60
Cost* of inner-lining envelope	\$0.12	\$0.15
Cost of container and lining per pound of seafood shipped	\$0.014	\$0.0125

* Appropriate prices at today's costs.

This method implies, therefore, what any satisfactory method for shipping and marketing fish implies, namely:

1. Fish to begin with must be *fresh*. Fish out of water two or three weeks are not strictly fresh fish.
2. Fish should be cooled to a satisfactory temperature almost the moment they are taken from the water.
3. Before shipping fresh fish by the method discussed here, they should be cooled to just above freezing and packed, while in a cool room, for shipment.
4. The cartons, both inside and outside, should be kept dry. Water soaking the container will not only lessen its strength but will also destroy its insulating qualities.

5. An insulated shipment should arrive at destination within 24 hrs. if temperature upon arrival is expected to be as low as 45 deg. F. when the outside temperature is 75 to 80 deg. F.
6. Upon arrival, the shipment should be placed once again in refrigeration and protected by means of adequate temperature controls until finally purchased and used by the ultimate consumer.

ACKNOWLEDGMENT: *The author acknowledges the assistance of Prof. Katherine K. Burgum and Capt. Clark Aylsworth, research associates, who aided in the preparation of test data and photographs for this article.*

PCA's fish package with kraft-foil liner

Pennsylvania-Central Airlines have conducted successful test shipments of fresh fish using a special non-refrigerated container with a kraft-foil inner liner. Dr. Spencer A. Larsen, author of the accompanying article, also assisted with these tests.

The PCA container differs essentially only in the innerbag, which is a moistureproof lamination of aluminum foil and kraft instead of Pliofilm. The fish themselves may or may not be wrapped in Pliofilm. The foil-kraft bag is packed and heat-sealed within a domestic 8-flute corrugated box 15½ by 11⁹/₁₆ by 9¼ in. This box is then placed in a larger domestic 8-flute corrugated fibreboard box 18¼ by 14³/₈ by 12 in. Eight faces of 8-flute corrugated pads are placed between the inner and outer boxes to provide a dead cell for thermal insulation.

As used in a recent test shipment from Detroit to Washington, the outer box was then sealed with a waterproof sealing tape. The weight of the empty container was 4½ lbs. or about 14% of the weight of the fish. If this same shipment were made by surface transportation, the container and ice would have weighed about 10 lbs. or 30% of the weight of the contents.

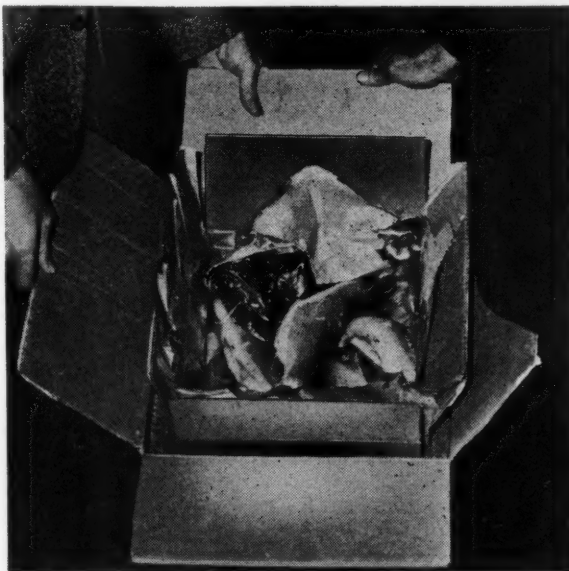
In making the shipment test, two containers were used in order to make a comparison of results. In one container 33 lbs. of whitefish were pre-cooled to 40 deg. F., then wrapped in Pliofilm. The fish were then placed in the inner bag. This bag was heat-sealed and placed in the inner fibreboard box which was in turn placed in the outer fibreboard box. The outer box was sealed with waterproof tape. The second shipment also consisted of 33 lbs. of whitefish which were packaged in an identical manner except that the fish were not wrapped in Pliofilm.

The containers were loaded in the forward cargo compartment of a PCA Capitaliner flying on a scheduled flight from Detroit to Washington. On arrival at Washington's National Airport the boxes were opened and the temperatures of the fish recorded by Dr. L. G. Lederer, medical director of PCA, Leo Young and other officials of the Dept. of Interior's Fish and Wildlife Service.

Temperatures were tested at the top layers of the two shipments and the center layers. It was found that temperatures of the top layers had risen only 4 to 6 deg., while in the center layer the temperature rise was a mere 2 deg. There was no appreciable difference in the temperature retention of the fish that were wrapped in Pliofilm and those that were not wrapped. It should be noted that the packages were given no special position in the cargo compartment, but handled in a purely routine way.

"This test air shipment of fish keynotes the important part that packaging will play in the development of air cargo, particularly with reference to handling perishables in the air," says Joe W. Stout, Jr., supervisor of air cargo development for PCA. "Little doubt remains but that perishables properly packed can be dispatched by air without refrigeration with great savings in time, weight and cost."

Plioilm-wrapped fish are put in a foil-kraft bag inside double, insulated corrugated containers.





A dispenser has been added

Vonett Sales Co., Hollywood, Calif., finds itself in the same position as the man who made a better mousetrap. Starting to sell a coiffure preparation, "Hair Mist," in a small way on the West Coast, the company found that in a short time word-of-mouth advertising was making it almost impossible to keep up with orders, partly due to the packaging design tie-up with Hollywood Stars.

Now Hair Mist and its companion product, "Hairglo" (lower photo), enjoy wide distribution in their newly designed packages. Hair Mist comes in two sizes. The small bottle is shipped, six to a display container, complete with six all-plastic dispensers. The separate dispenser, provided with a metal cap just like the one with which the bottle is closed originally, gives the added merchandising appeal which a product of this type needs. The woman need not soil her hands or overdouse her hair, just a few sprays and she is well coiffed.

Hairglo, a shampoo, is identified as a product belonging to the same family by means of a similarity of label design, but, at the same time, by employing a different color combination it is promoted as a distinctive product for the use of the entire family.

In the top photo, the dispenser is used again with the Orange Blossom beauty lotion. In this instance, the same as with the large-size bottle of Hair Mist, an individual display carton holds each bottle of the lotion along with its dispenser.

CREDITS: Dispensers, Calmar Co., Los Angeles, Cartons, Royal Paper Box Co., Los Angeles. Bottles, W. Braun Co., Chicago and Glass Containers Inc., Los Angeles. Caps, Phoenix Metal Cap Co., Chicago.

DESIGN

Melamine cosmetic container

With the growing popularity of cake make-up, the introduction of a make-up remover seemed inevitable. One of the most attractively packaged and widely publicized of these removers is "Photo Finish," an Elmo Sales Corp. product.

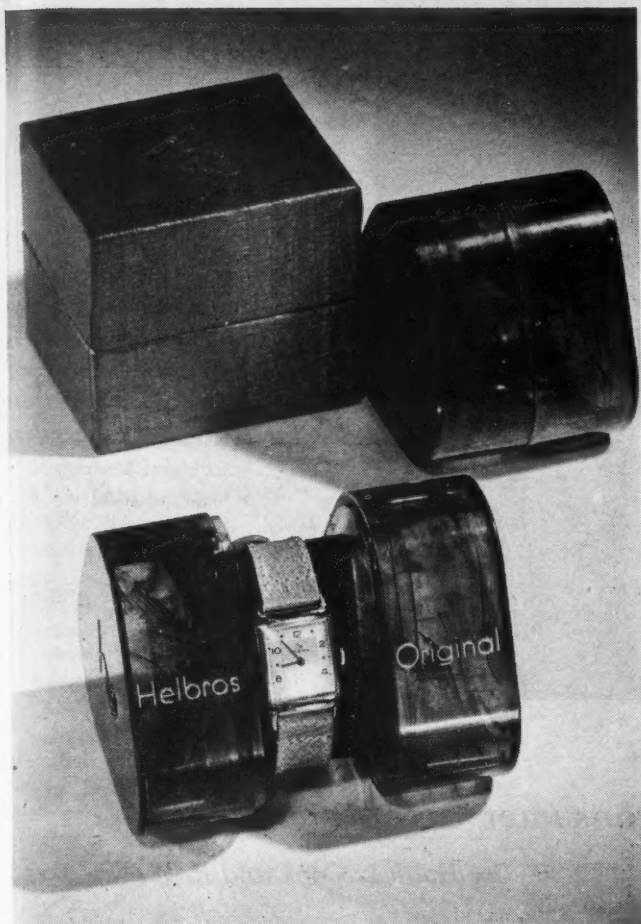
The container itself makes news aside from the product it contains. It is one of the first applications of melamine to the cosmetic field. The container is a dusty, soft rose in color, compression molded in two pieces with the cap is provided with a screw thread and a waxed liner. The cream itself covered with a cellophane disc for sanitary reasons. The base of the container also has a screw thread molded directly into the material.

According to tests made by Elmo Sales, melamine was found to be the ideal plastic material for this type of cream. In fact, it was found to stand up better than any of the materials used formerly. It is an interesting fact that this material holds the cream, which is a semi-liquid type, without any liner and show no signs of bleeding through the plastic.

The top of the container carries the name of the product in simple gold lettering applied by a lacquer wipe-in while all directions and other information appears on a transparent label applied to the bottom.

CREDITS: Melamine, Plaskon Division, Libbey-Owens-Ford Glass Co., Toledo, Ohio. Molding, Norton Laboratories, Inc., Lockport, N. Y.





A re-use watch case

A watch case which has a permanent re-use value as a bedside watch stand as well as excellent display value in the jeweler's window, has been adopted by the Helbros Watch Co., to back up its merchandising program which is based on high-quality watches plus originality of design.

The case is molded of tortoise-shell-like cellulose acetate in the shape of a triangular prism with rounded corners. It is molded in four parts—two to make the inside and two to form the outer shell. The two inside pieces are combined and the joint covered with velvet to form the portion which holds the watch. The two outside sections are then made to slide together covering the watch and forming the case as shown in the illustration.

Biggest problem in design was to have the case equally adaptable to both men's and women's watches. The problem was answered by making the right side of the cover removable thereby presenting a smaller surface over which to slip the smaller band of the lady's watch. Three small dots were molded into the inner surface of the right cover. This provides a semi-positive stop for the part when the case is opened normally but allows the cover to come off with a little extra tug.

Since this case is really meant to last as long as the watch, the company felt that it was necessary to protect it until the entire package reaches the consumer. Therefore, a set-up box covered in a brown simulated leather is used as an outer package for added protection from scratches and mars.

CREDITS: Fabricator, Braun-Crystal Mfg. Co., Middle Village, N. Y.

HISTORIES

New trade character

"Kimmy," a new trade character, is selling great quantities of Kimsul, Kimberly-Clark Corp.'s home insulating material, since his birth a short time ago. He appears in a complete series of window displays as well as on a small package containing a sample of the material.

In no place is he static—movement is the essence of his being. Both winter and summer he promotes the need for insulation—the cold weather displays showing him in warm yellow surroundings and the summer displays giving him a cool blue setting.

The rolls of Kimsul, massed together in their distinctive copper-maroon wrappers (see MODERN PACKAGING, January 1945, p. 104), make a dynamic window when combined with a series of "Kimmy" cartoon-type displays. However, since many dealers do not have sufficient window space to accommodate the large rolls of this material, the displays were designed to be sufficiently eye-catching even when used alone.

Another space-saving merchandiser was created, with the help of "Kimmy," in the form of a small carton containing a sample piece of Kimsul. This small sample satisfies the consumer's natural urge to "feel" the merchandise without the necessity to open the large roll. And again, in the small window, the samples give the dealer a chance to show the actual product on a scale which he can handle.

CREDITS: Creator of "Kimmy," Jack Strausberg, Chicago. Displays, Rowen Litho Press, Chicago.





1—Grocer may display compact, attractive dry milk package on shelves or counters, without refrigeration, along with canned goods, and all other packaged groceries.

Dried milk . . . a test of consumer acceptance

by Hugh L. Cook and R. W. Hoecker*

The extent to which dry milks will meet with consumer acceptance in the postwar period is watched closely by the dairy industry. The production of dry whole milk increased from 19,432,000 lbs. in 1935 to 172,297,000 lbs. in 1944 and production of nonfat dry milk solids from 297,506,000 lbs. to approximately 602,375,000 lbs.—an increase of 787 and 102.5%, respectively. Furthermore, since 1935 there has been a substantial decrease in the use of nonfat dry solids as animal feed and a noticeably large increase in its use as human food.

To the extent that dry milk merely replaces fluid milk use,

Preservation of dried milk in packages made great strides during the war. From an economic standpoint, preservation is highly desirable because it offers the most practical way of adjusting distribution between surplus and deficit producing areas, as well as a means of delivering milk to certain areas, both here and abroad, which have little or no fresh milk available. Whether dried milk will realize its great commercial potentialities depends upon consumer acceptance—and this is very largely a packaging problem. This article, provides a study of dried milk packaging as it has been developed to date.

producers in city milksheds would lose and distant producers would gain from the change. To the extent that dry milk represents an additional use of milk, all producers will tend to gain. If dry milk is substituted for evaporated (canned) milk, the gain or loss to producers will depend in part on the relative processing and marketing costs of dried and evaporated milk.

A problem of immediate concern to Government agencies, therefore, is the extent to which dry milks may be successfully distributed at retail. Present price-support commitments will tend to encourage continued high production of fluid milk during the postwar period. Besides aiding in the utilization of drying equipment, the capital expenditure for which has been amortized to the war effort, consumer acceptability would offer another avenue for disposal of surplus milk.

For a considerable period of time, nonfat dry milk solids and dry whole milk have been sold at retail in Houston, Tex., one of a few cities in the United States of which this is true. Houston, therefore, was chosen for a survey of retail distribution and consumer acceptance, which was conducted between March 2 and April 25, 1945. Houston is normally classed as a deficit milk-producing area, which is to say that the people consume more milk than is locally produced.

The data on consumer reactions are based upon a survey of housewives who have the major responsibility for planning the meal in their homes. Interviewers made calls at 1,500 dwelling units in the metropolitan area of Houston to ascer-

* Of the Bureau of Agricultural Economics, U. S. Dept. of Agriculture. This article is excerpted from a complete report of the Houston survey written by the same authors and published by the Bureau of Agricultural Economics.

TABLE I—SUGGESTIONS FOR IMPROVING THE PACKAGING OF DRY MILK BY GROCERS WHO HAVE STOCKED THE PRODUCT

Suggestion	Small independents	Large independents	Chain-store executives
	Number—29	Number—10	Number—6
	Number	Number	Number
Suggested changes in material:			
Tin can	2*	1*	1*
Glass jar	1	0	1
Cellophane package	3	0	1
Waxed carton	1	0	0
Cellophane window	0	0	1
Suggested new characteristics desired in improved container:			
Make package moistureproof, airtight	4	0	0
Make package insect-proof	2	0	0
Improve attractiveness	1	2	0
Increase visibility of contents	1	0	0
Decrease size of package	1	0	0
Redesign shape of whole milk package for ease in stacking	0	0	1
Made no suggestions	18	7	3

* Columns add to more than the number of cases because more than one statement could be made by each respondent.

tain whether dry milk had been bought. These dwelling units were selected to give a cross section of all dwelling units in the city. Every respondent who had bought dry milk was interviewed, but only a subsample of those who had not bought dry milk was interviewed; 253 buyers were interviewed and 479 nonbuyers.

Dry milks, either whole or nonfat solids, had been purchased in 17% of the households in Houston since they were introduced to the market. Among those purchasing, 80% had bought dry whole milk and 27% nonfat dry milk solids. Stores in which dry milk has been stocked are available to practically all sections of the city.

Consumer uses and reactions

Nearly two-thirds of the people who had bought dry milks said they had a sufficient supply of fresh milk at the time of their purchases. A large portion of the buyers, however, had not been able to get all the evaporated and condensed milk they wanted.

The greatest number of the housewives who had bought dry milks had used them in some form of cooking or food preparation such as baking bread and cakes, making custards, sauces, and so forth. Nearly one-half of the people who had bought dry whole milk had tried it for drinking. Only about one-third of the persons who had bought nonfat dry solids had tried that product for drinking.

Forty and 59% of buyers of dry whole and nonfat, respectively, regarded the best usages to be for cooking and baking. Only 13% of those who had bought dry whole milk and 10% of those who had bought dry nonfat regarded the best usage to be for drinking, as reconstituted fluid milk.

The two characteristics of dry milks which were mentioned as being disliked by the largest number of housewives were those of taste and difficulty of reconstitution. Few grocers

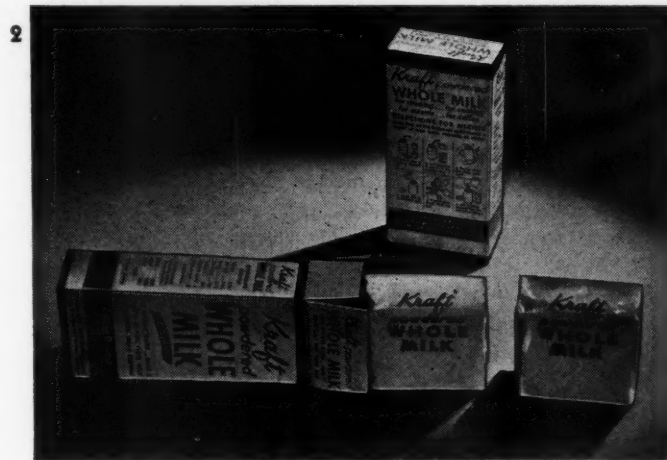
had heard any unfavorable comments from their customers about dry milks.

Among those persons who had bought either dry whole or nonfat dry solids, dislike of dry milks by the other members of the family occurred more frequently where whole milk was used, possibly because the dry whole milk was used more often for drinking than was the dry nonfat.

Ninety-six per cent of the people who had used dry whole milk and 87% who had used nonfat had used it in the reconstituted form. About 20% of the housewives stated as one of the qualities which they disliked was the difficulty of reconstitution.

About one-half of the grocers stated that they had heard favorable comments with reference to dry whole milk. A smaller number had heard favorable comments about the dry nonfat. Qualities especially liked about the two kinds of milk were that they kept well and were convenient to have on hand for emergency.

When any new product is put on the market, the success



2—Kraft package for dried whole milk, as sold in Houston test, has two separate, heat-sealed inner packets, each holding the equivalent of a full pint of fluid milk.



3—Borden's skim milk package, also sold in Houston, is chipboard with an MSAT cellophane liner, heat-sealed at both ends. This is a single package of 1-lb. content.

of the product depends largely on the degree of promotion. Dry milks are no exception. A well planned promotional campaign had been carried out by the distributor with, in many cases, the active cooperation of the stores. However, all of the market had not been reached. Of the housewives who had not bought, 54% were unaware that dry milks were being sold. Three-fourths of the small independent stores which had not sold the product were unaware it was sold.

Promotional methods varied in the degree of effectiveness. Demonstrations, particularly the test-kitchen type, appear to have been the most effective with the consumer, though not necessarily the most economical. The personal call by the distributor's salesman was the most effective in placing the product upon the shelves of the retailer.

About one-third of the buyers of dry milks made the initial purchase as an experiment. One-fourth mentioned inability to buy sufficient fresh milk, and about 5% inability to buy canned milk, as the reason for making the initial purchase. However, more than one-fourth first bought the dry milks because they liked some attribute.

All of the stores, except about one-third of the small independents, had made some special effort to promote the sale of dry milks. Such efforts included special displays, mentioning to the customer—particularly when fresh and canned supplies were short—demonstrations, newspapers and leaflets.

About 25,000 packages of dry whole were sold by independent stores and 7,000 packages of nonfat dry between January 1944 and February 1945. During the same period, the six corporate retail chains in Houston reported a total sale of 4,170 cases of dry whole and 1,529 cases of nonfat dry solids. These totals represented 200,208 packages of dry whole and 18,348 packages of nonfat dry solids.

Packaging of dried milk

The 8-oz. package for dry whole milk used in Houston (Fig. 2) consists of two 4-oz. laminated pouch-type envelopes

- 4—Housewife can use dry milk for baking, measuring milk directly into mixing bowl with other ingredients.
- 5—Packages of dried milk store in any cool, dry place; in kitchen cupboard with other dry groceries. Children find dry milk good for drinking when reconstituted, chilled; it is pasteurized, high-quality milk.



TABLE II—LENGTH OF TIME THE DRY-MILK PACKAGE WAS KEPT BEFORE BEING OPENED BY HOUSTON HOUSEWIVES

Time period	Had bought dry milk
	Number—253
	Per cent
Less than 1 week	65
1-2 weeks	21
3-4 weeks	4
5-8 weeks	1
Over 8 weeks	1*
Did not know	3
Not ascertained	6
	100

* Less than 1%.

with heat-sealing closures. The two envelopes are enclosed in a folding cardboard carton. The package for nonfat dry milk solids (Fig. 3) consists of a heat-sealed parchment lining, inner lined with a cellulose ply, and a cardboard outer package, with insert-type lid, not glued. These containers are neither entirely moistureproofed nor proofed against the entrance of ultra-violet light rays. In the case of nonfat dry solids it is doubtful whether light rays would have any deteriorating effect. Strong light rays, however, probably would turn the fat content of the dry whole milk rancid. Both the dry milks are likely to cake if the package is not proofed against moisture with a fair degree of thoroughness.

The majority of the consumers who had bought dry milk said that the type of container made no difference. Compared with a can, 73% are satisfied with the present package.

The grocers' suggestions for improving the packaging may be grouped under suggestions for improving visibility of contents, suggestions for changing size and shape of package, suggestions for increasing attractiveness and suggested



6—These packages in 12 oz. and 7 oz. sizes also were used in Houston test. Housewives indicated brand name was important in test of unknown product. 7—This modified version of the Houston package is now being marketed by Kraft. Two flat, inside packets are made of laminated materials for superior keeping qualities.

changes in material. Most grocers had no suggestions to make. (See Table I.)

In connection with the problem of visibility of the contents, a test kitchen hostess who was interviewed said she found it desirable to keep part of the contents of a dry-milk package emptied into a small glass bowl on the test kitchen stove for those persons who cared to see, feel and taste the contents.

A tin can or a glass jar have similar qualities of convenience for use after opening and may be packed similarly. Of the two, perhaps the tin can is slightly more expensive, but expense is of minor consequence in either case. Doubtless when abundant supplies of tin and glass are again available, distributors of dry milk will examine the desirability of changing the type of package.

It is desirable to observe the merchandising practices which affect the freshness of the product. About one-seventh of the grocers who had sold dry milk indicated that they had had trouble with dry milk caking while on their shelves. The test kitchen hostess of one of the large chain stores said that in a few instances the packages of nonfat dry milk solids were caked when they were initially taken from the carton. The packages if not badly caked may be pounded slightly and the cake largely broken up, but small lumps will remain. Of the seven who had had trouble with dry milk caking, five stated that they had rotated the packages and two indicated that there had been no need to do so because the packages were all sold when the new order was delivered.

The executives of the chain stores interviewed stated that it was always a policy when arranging new packages on a shelf to place the old packages in front. In many cases the supply of labor was too short to carry out practices which

would normally be followed. Sometimes the clerks were in experienced. Most of the grocers and the large independents followed essentially the same practice, subject to these limitations. In the small independents almost one-third who had sold dry milk said that they followed the practice of putting the new packages in back. Most of the remainder reported that they had no packages in stock when a new order came in, that the salesmen collected all the unsold packages when a new order was delivered, or that they had never re-ordered. In connection with the latter statement, both the nonfat dry milk package and the dry whole milk package are dated in code. Most of the salesmen of the distributors followed the practice of removing any package which bore a certain date when the new order was brought in. These practices would seem to indicate that any caking which occurred was not because of undue length of time held upon the shelves.

The practice of the housewife in stocking packages on pantry shelves helps in determining the kind of package needed. Tables II, III and IV show that 65% of the housewives who had bought dry milk opened the package within one week of the date of purchase, that in five cases out of six the packages of both nonfat dry and dry whole were customarily kept in the cupboard, and that 53% of the housewives used the entire package in less than one week after opening.

Another factor affecting packaging should be considered in addition to the above practices of the housewife. Some of the chain-store executives mentioned that dry milk was being used as an emergency milk supply by persons on camping trips, by persons living considerable distances from stores, and by section gangs and similar laboring crews remote from stores. Often such purchasers of dry milk buy one or more cases. In such instances it is reasonable to expect that the packages might stay in the hands of the purchasers for a longer period of time than that indicated by housewives who are within ready reach of stores. The market consisting of purchases such as these should not be ignored. Such a market has always been a strong one for consumption of preserved foods.

The postwar market

One half of the housewives who have bought dry milk said they expect to use the product when food supplies become normal after the war; 35% did not expect to use it, and 15% did not know whether they would use dry milk.

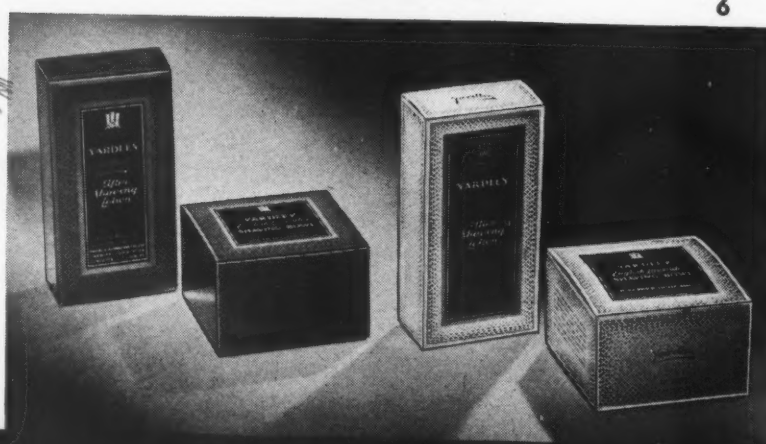
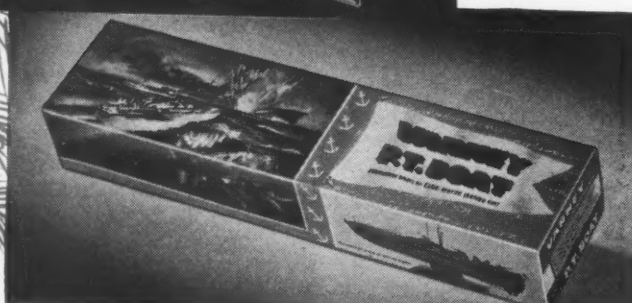
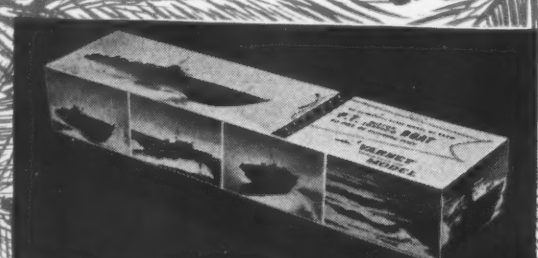
Only about one-seventh of the various grocers who had sold dry whole milk offered an unqualified statement that they would not sell dry whole (Continued on page 176)

TABLE III—WHERE DRY-MILK PACKAGES WERE KEPT BEFORE BEING OPENED BY HOUSTON HOUSEWIVES

Place	Had bought dry whole milk	Had bought nonfat dry solids
	Number—202	Number—67
	Per cent	Per cent
Cupboard	83*	86*
Refrigerator	13	10
Opened package as soon as purchased	2	0
Not ascertained	3	7

* Percentages total more than 100 because more than one statement could be made by each respondent.

PACKAGING PAGEANT



1 Not to be outdone in the presentation of gift sets this holiday season, the Herb Farm Shop is ready with its luxury packages done up in transparent acetate. Two sizes shown here are trimmed with ribbon and nosegays for that extra fillip. Acetate containers, Leipzig & Lippe, Inc., New York City.

2 Maurella Products Co., throws its hat into the men's toiletries ring with an unusually packaged line called "Timber." The outside containers are made of a wood pulp composition made to resemble the bark of a tree. Bottles, Swindell Bros., Baltimore, Md. Containers, William L. Gilbert Clock Corp., Winsted, Conn. Labels, Tompkins Label Service, Philadelphia, Pa.

3 The new crystallized brillantine by Pinaud, Inc., is packaged in a 2-oz. glass jar with a metal cap bearing the distinctive Pinaud trade mark in green and black. A green sleeve box repeats design. The package is being promoted as easier to handle than the liquid form. Box, Quartin Specialty Box Co., New York City.

4 In order to increase shelf appeal, Gordon Varney, Chicago, scale model manufacturer, has changed his one-color-on-white package to a four color job with a full-color reproduction of a P.T. boat as the focal point. Design, Sidney Wells, Chicago. Plates, Ad Plate Engraving Co., Chicago. Box, Atlas-Boxmakers, Inc., Chicago.

5 Reports indicate that the new bar bottle for Forbidden Fruit is being accepted with enthusiasm. The new bottle was designed for easier pouring and better display but retains its identity with the fancier consumer bottle by means of its label which is an exact reproduction of the other bottle.

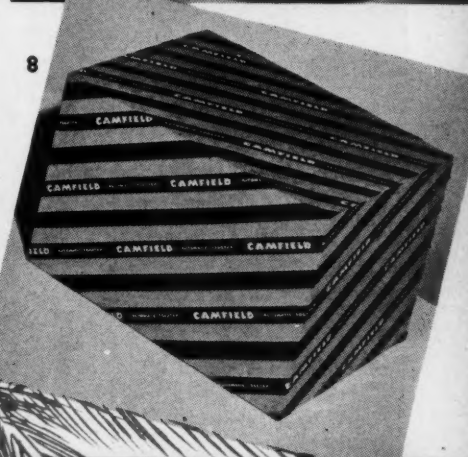
6 Yardley of London brightens up its After Shave Lotion and Shaving Bowl cartons by reversing the color scheme. The old carton with a green background lacked eye-appeal so the same design was adapted to a white background. The entire line of Yardley shave preparations will soon use the white cartons. Cartons, J. & P. B. Myers, Inc., New York City.

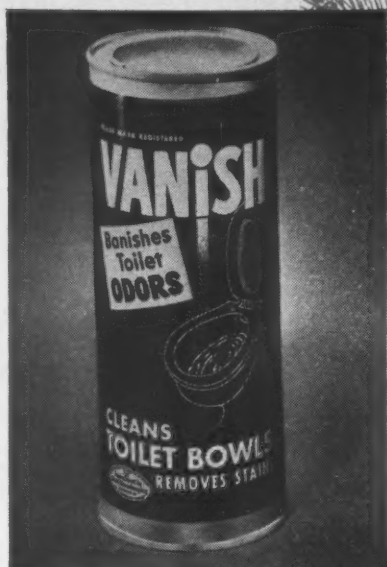
7 A new line of men's toiletries takes its name from the bronze head of Apollo applied directly to the container. The heads are of a plaster-type material, applied to the package and bronzed. Figure heads, Ellis Display Co., N. Y. Cartons, Huschle Bros., Inc., Long Island City, N. Y.

8 In order to dramatize the postwar allure of new merchandise, the Camfield Mfg. Co. has introduced a "surprise package" for its new toasters. The diagonally striped carton in blue and white has the name of the product in reverse letters on the blue, permitting easy recognition no matter how it is stored on a shelf.

9 Helena Rubenstein's new eye makeup kit uses a cellulose acetate cylinder to hold two injection-molded polystyrene containers for eye shadow and eye cream, and a tube of mascara. The serrated edges of the containers pick up light and the colors of the products and carry them out to the edges for sparkling effect. Styrene, The Dow Chemical Co., Midland, Mich., and Bakelite Corp., New York. Cellulose container, Seaman Box Co., Inc., New York City.

10 Not only is the new Barcolene label intended to show plainly the various uses of the product, but it has exceptionally good eye-appeal as a shelf, counter or window-display item. Clear, clean use of color adds to its attractiveness. Labels, New York Label and Box Corp., N. Y.





11

The Expello Corp. has introduced a redesigned container for "Vanish," a toilet bowl cleaner. It is a tall, round metal container just right to fit into the hand comfortably even when wet. The clean tones of blue and white further the sell story—"banishes odor." A rear panel gives full directions for use. Cans, Continental Can Co., N. Y.



12

A vacuum-sealed can is used to package Horlamus' pure rye bread meant for people who are hypersensitive to wheat and other cereals. Brown and beige set off with touches of red and gold make an interesting label for this specialized food. The back of the label stresses the value of the bread as an essential food for allergic people.

Dow Corning "Stopcock Grease," a silicone lubricant, is being distributed by leading laboratory supply houses in standard lead tubes. This is one of the first commercial packages for a silicone compound and the tube was used for convenience in dispensing a small amount of the greaselike material at one time. Tubes, Michigan Collapsible Tube Co., Detroit, Mich.

The Wine Advisory Board, which is supplying the price cards shown in the illustrations, has suggested this type of gift package for the Christmas trade. Easily wrapped by the retailer with inexpensive materials, different color combinations can be used to designate different wine combinations. The "window" need be cut in only a few of the packages used for display purposes.

Magar Home Products, Inc., believes in suggestive selling even on packages of the new insecticide, D.D.T. Each of the four products, compounded for four different and specific uses, is packaged to suggest its own function in the house or garden by means of lithographed labels. Lithographed cans, National Can Corp., New York.

Two packages for Softol cuticle sets have been designed for the Christmas trade. The women's package (right) is red, green and silver—suitable for the season but also simple enough for a year round gift item. The men's package has a holiday sleeve which slips over the regular carton. Bottles, Foster-Forbes, Marvin, Ind. Cartons, Shampaign, Cirtron and Clark, Brooklyn.

The return of Mennen Skin Bracer in specially designed Christmas cartons after four years is another sign of returning normalcy. Two sleeves have been designed for this popular-price item—each carrying the seasonal red and green color combination. Design, Duane Jones Co., New York City. Sleeves, International Folding Paper Box Co., N. Bergen, N. J., and The Wilkata Folding Box Co., Kearney, N. J.

A metal-hinged mirror tissue box with pink metal trim is used by Primrose House as a container for four of its bath products. The bed of shredded cellophane adds to the festive air when the box is used as a counter display. Box, Stone Associates, Inc., Chicago.

Alice Dodd, Inc., New Rochelle, N. Y., uses a paper outer wrap for her brandy-sherry fruit cake, which also serves as a mailing wrapper. The neutral tan and red-brown of the wrapper is decorated with garlands of fruit in color and the whole effect is much like an Old English print. Corrugated protects the loaf inside. Wrap, Lutz & Sheinkman, New York.

Certified Foods is acting as exclusive sales agents for a group of small independent packers who are offering a line of foods under the "Your Certified" brand. The new label features the shielded Consumer Information panel recently copyrighted by the U. S. Inspected Foods Educational Service (see MODERN PACKAGING, July 1945, p. 110). As consumer acceptance is developed, additional packers will be added to increase the assortment available under the new label.

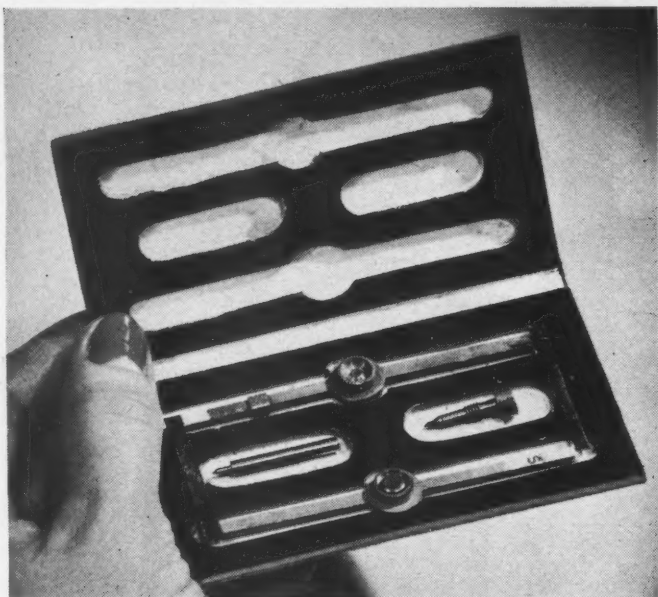


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PACKAGING PAGEANT





1

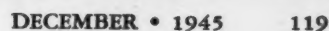


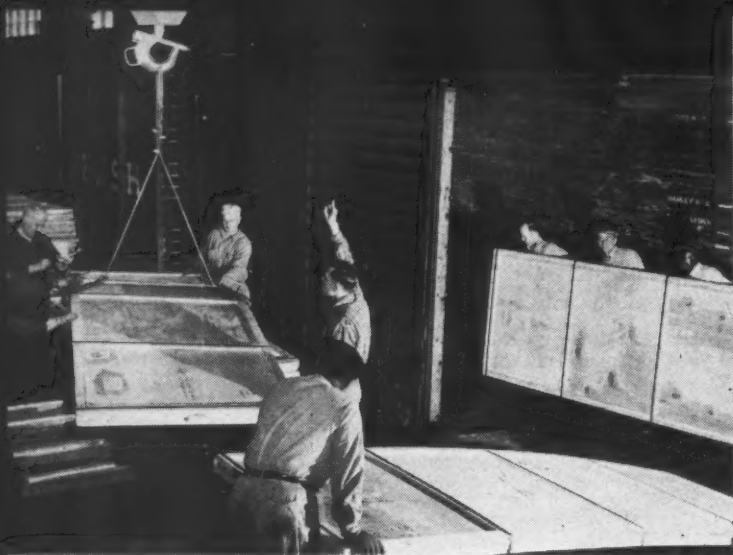
The war-learned lessons as to the value of the engineering approach may well be used to help solve the problems of peacetime packaging. Here are some points which should be considered:

1. *Never send a salesman to talk to an engineer nor an engineer to talk to a salesman.* The salesman's chief function is to establish packaging needs—the cost limitations of the package in relation to the product, the desired length of shelf life, the desired shipping methods, preferred size of package, the use the package and product receive in the home, the desirability of informative labeling. This information he can secure from the customer's sales manager and purchasing agent.

But it is the packaging engineer's function to consider the methods used to produce the product, the quality control and inspection techniques, the relative merits of different materials in relation to cost, ease of handling and suitability to the product, the manufacturer's packaging equipment and the efficiency of his packaging staff and department layout. This can be obtained only at the manufacturer's plant and only from his own engineers and production chiefs who have the information. Don't try to sell packages; aim to sell efficient *packaging*.

2. *Don't make the package carry more than its share of the cost of distribution.* There is a definite amount of the retail price of any product that can be legitimately charged to packaging; anything beyond that—such as extra color, fancy ties or decorative overwraps designed to increase sales—should be charged to sales promotion or advertising—not packaging. In other words, packaging costs should be based on functional requirements.
3. *Don't "get married" to any one material or type of material.* This is especially important now, when new materials and combinations developed during the war are being adapted to peace- (Continued on page 180)

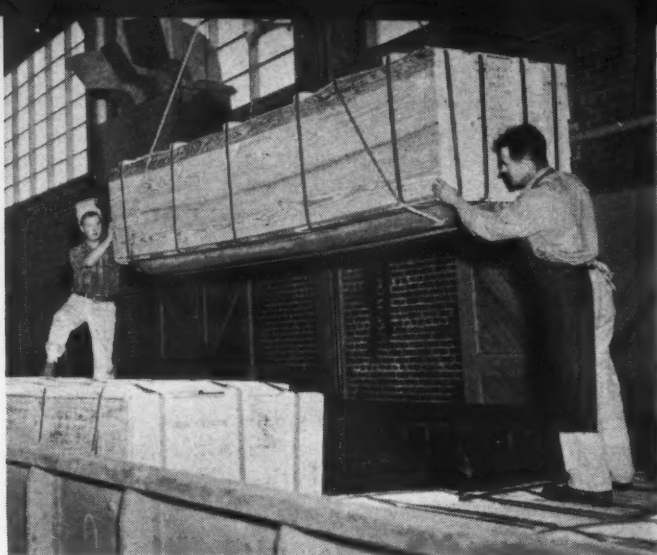




PHOTOS, COURTESY ALUMINUM CO. OF AMERICA

1

1—When aluminum sheet was packed in 500-lb. boxes it took eight men nine hours to load a boxcar with sheet.



2

2—Now 13,000-lb. boxes of sheet on skids are loaded in gondola cars by three men and a crane in three minutes.

Shipping sheet with more efficient packaging

The war helped bring scientific attention to bear on the packaging of heavy industrial products for shipment. During the war rush the impelling need was for speed in handling and economy of shipping space. But the lessons thus learned can also be applied in peacetime to cut shipping costs.

During the war, production of aluminum in this country expanded more than 700% to keep abreast of the needs of our Army and Navy for planes, landing mats, ponton bridges, flak vests, gasoline drums, barracks and other vital equipment.

One result of this was a multiplication of shipping problems. In times past, aluminum sheet, for example, was usually shipped by rail or truck in packages having a net weight ranging from 300 to 1,000 lbs. Today this small-scale shipping has been superseded by newer methods which involve packages weighing as much as 15,000 lbs. In some cases it has been necessary to make drastic changes in load-

ing and unloading equipment to handle these heavier loads.

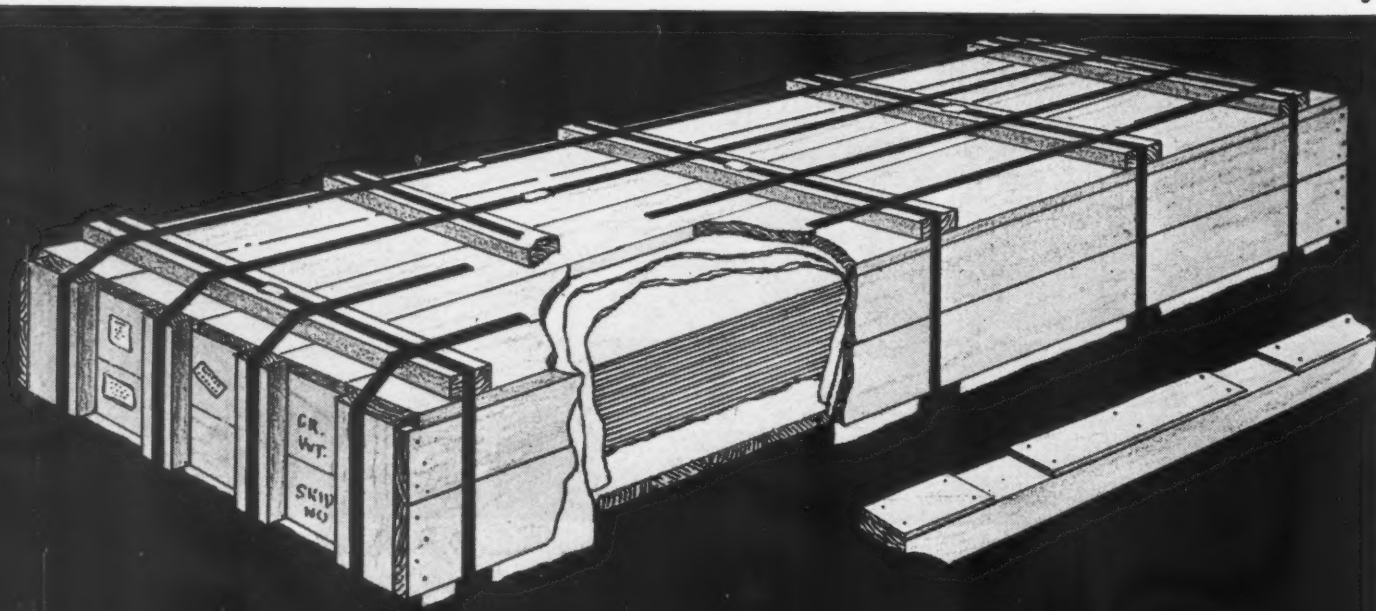
Shortages of wood, plywood and paper have further complicated the situation. It has been necessary for the mills to ship the largest possible quantity of aluminum with a minimum of packing material.

The experience of Aluminum Co. of America at its large sheet mills may be regarded as typical. During the war these mills produced aluminum at a prodigious rate. (Much aircraft sheet was rolled at a rate 50 times faster than in prewar days.) Some of this sheet, intended for the "skin" of bombers and fighter craft, came off the rolling mills in sections nearly two blocks long. Packing and shipping of this material imposed problems never before encountered.

Aluminum alloy comes to these mills in the form of ingot and pig. It goes out as finished sheet, cut to size. Dimensions vary widely according to use. Sections of sheet may be 20 ft. or more in length.

5—Cutaway section of drawing shows details of typical packaging. Up to 15,000 lbs. of aluminum sheet are covered with waterproof paper and boxed in wood tied with metal strapping. In the foreground is a section of the skid which is used.

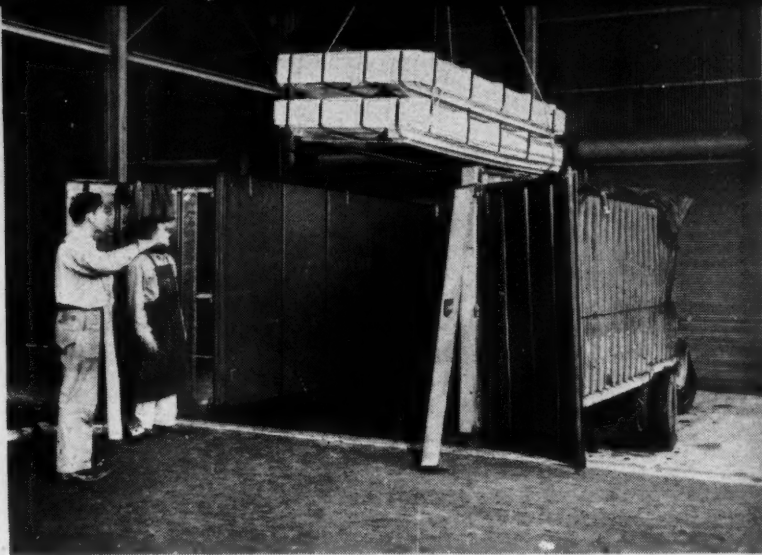
5





3

3—Wood strips and metal straps hold each bundle in place and heavy waterproof paper protects it from the weather.



4

4—Two men with a crane can load open truck in ten minutes; a closed truck takes four men and about 40 minutes.

Fig. 2 shows a typical skid used for shipment of aluminum sheet. This type of skid was widely used for the shipment of aluminum to aircraft factories and other vital war plants, and will find extensive application in the months to come.

Construction details of the package and skid are shown in Fig. 5. Since these skids are generally shipped in open gondola cars for convenience in handling, the aluminum sheet is given maximum protection from the weather by the application of several thicknesses of suitable waterproof paper which in turn is protected with wood and steel strapping.

Proper identification of the contents is made by use of packing tickets, one of which is placed inside the skid, the other on the outside. A recent innovation involves the use of aluminum foil envelopes for protecting these packing tickets against the light film of oil that may cover the metal. The foil envelope has a convenient pull-tab that releases the contents of the envelope with its oil-free ticket.

A considerable saving in manpower and freight space is effected through the use of these large skids. Overhead cranes lift the skids into open gondola cars. A carload lot (114,354 lbs.) is handled easily by a crew of three men in 45

minutes. Under the old method, using 500-lb. boxes, two to three times as many men were required to handle this amount of aluminum and took eight or nine hours or more.

With the critical shortage of lumber every effort has been made at Alcoa plants to conserve every bit of wood possible. Skids are constructed with a minimum of nails so they can be taken apart with little effort. Where transportation charges permit they are purchased for re-use.

Equal progress has been made in the refinement of packing methods for aluminum products other than sheet. For example, a new method of packaging aluminum tubing has been developed that is more satisfactory in many ways than the older method of shipping tubing in wooden boxes. The newer technique under test consists of arranging the sections of tubing in long triangular stacks, wrapped in paper and held tight with wooden battens and steel straps.

In Alcoa's Pittsburgh office, scale models are made of all types of shipping containers used at the company's plants. With the help of these models, plans for new and improved methods of packing are worked out. Here, Alcoa salesmen from all parts of the country talk over their problems.

6—The stack of aluminum to be packed is placed directly on a skid, wrapped in paper and the box built around it.

6



7—Scale models of the various types of packages help salesmen in solving each customer's packaging problem.

7





1—Left to right, first G. Washington's package, recent one and new one with oval design. Reason for change is to achieve a traditional theme with more distinction in keeping with name of product.

Coffees . . . designed for modern living

The days of coffee rationing are long past and as the container situation improves, package redesigns indicate new trends in coffee merchandising.

At present, attention seems to be centered on soluble coffee products. The convenience of putting a teaspoon of soluble coffee in a cup and adding boiling water to get a quick cup of hot coffee has apparently appealed to the public in the quick tempo of American life. Well established brands, such as Nescafé and G. Washington's have had such wide market acceptance that many newcomers are arriving on store shelves.

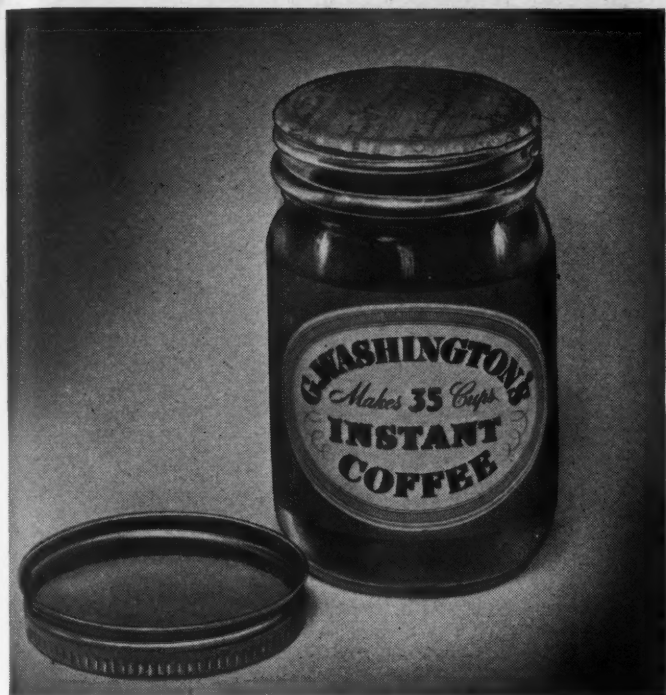
General Foods introduced its instant Maxwell House soluble coffee product to the New York market in September. The Borden Co. has presented a new soluble coffee in test

areas. Great Star Soluble Coffee Co. recently announced Sol Café distributed by McCormick and Co., Baltimore. More soluble coffees, by other leading companies, are coming.

Most widely accepted package for these products is a glass jar with screw cap. Soluble coffees, it is said, do not require the protection of a vacuum pack. A glass container has eye appeal. With its screw cap, it is well suited for re-use in the home and at the same time the housewife can see the contents of the jar and how much is in it. Also, the small size glass containers used for soluble coffees—2,4 and 12 oz.—are convenient to handle. This does not mean that metal containers might not be used at some time, but for the present the most generally accepted type is glass.

2—Cafémelo, another G. Washington's product, also has oval treatment and is redesigned for greater visibility. 3—General Foods retains essentials of Maxwell House brand identity for instant coffee product.





4



5

4—Filma-Seal inner closures give added protection against moisture—are printed with all-over trademark design. 5—Sol Café, similarly protected, recently won a blue ribbon for its striking label design.

In presenting its instant Maxwell House coffee product, General Foods has retained the characteristic block-letter style Maxwell House brand name, along with the symbol of "good to the last drop"—the upturned coffee cup. Both are contained in a brilliant Chinese red panel. Also retained is the familiar sky blue label background which has long been allied with Maxwell House jars, cans or bags.

Script style treatment of the adjective, "instant," in white against blue is suggestive of the few moments taken to create a cup of instant coffee. Contrasting type styles in yellow set off the words, "soluble coffee product." Directions are legible in black sans serif type on yellow in the blue field.

G. Washington Coffee Refining Co., a division of American Home Products, is presenting G. Washington's instant coffee in a redesigned label, the third label since the product was originally introduced. Prime reason for the change was to give the effect of a period or traditional theme that would be more closely associated with the name of the product, also to stimulate eye and appetite appeal. The background of the entire label is bright red and essential data is contained in two ovals, one on the front and one on the back. The front panel has a buff background with the name G. Washington's Coffee in blue type much larger than appeared on the old package. The idea of "instant" is gotten over immediately by printing this in red on buff background. All directions are printed in the back oval and black printing is used for legibility. For continuity with the old package, the "G. Washington's" is in script on the back oval as formerly used on the old package, but printed in red.

G. Washington's Cafémelo, another soluble coffee product, put out by a division of American Home Products Co., also has a new label. Here again ovals are used to give high visibility and border designs give a traditional appearance that complement those on the G. Washington's labels.

For Cafémelo, a coffee color background is used with red for the center part of the front label. The words, "G. Washington's" are subordinated to Cafémelo featured in the oval.

Directions are printed in the oval on the back in black ink.

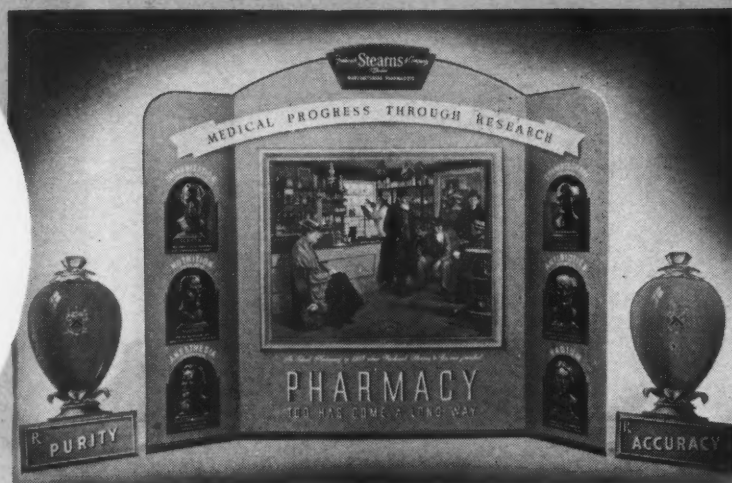
The Sol Café package with its striking label design was winner of a blue ribbon in the recent "Spice Mill" competition.

An interesting feature of the G. Washington's, Cafémelo and also of Sol Café packages is the use of "Filma-seal" inner-seals over the jar tops to give added protection against ingress of moisture during shelf life. The use of Filma-seal for such purposes is not new, but the idea of printing the tradename in a repeat pattern over the entire (Continued on page 180)

6—General Foods has revamped the label for Yuban—new label (left) retains essentials of old, but has improved lettering, colors and styling. Also a recent prize winner.



DISPLAY GALLERY



1

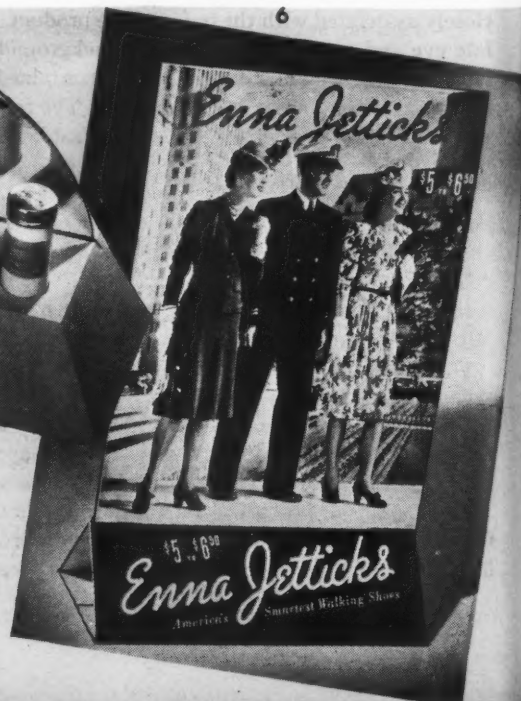
1 A new window piece designed to help drug stores build up their professional prestige is being distributed by Frederick Stearns & Co., division of Sterling Drug Co. The theme, "Progress of Medicine Through Research," is dramatized by a series of six cut-out busts of historic medical personalities. An oil painting depicting an ideal pharmacy of 1855 is given the center space above the display legend: "Pharmacy, too, has come a long way." The central display, 40 by 50 in., in eight colors, is flanked by pharmacists show globes in red and green, measuring $10\frac{3}{4}$ by $19\frac{1}{2}$ in. The units are suggested for use with ethical products. Display created and produced by Hussey-Woodward, Inc., New York.

2 A new merchandising carton of the die-cut lid type has been developed for this retractive Koiled Kord produced by Kellogg Switchboard and Supply Co. The cord has been adapted from wartime uses for various domestic and industrial electrical appliances. Each carton holds and displays ten cords. Planned primarily for self-selling, the carton combines attractive display features with colorful eye-appeal plus timely, interesting selling copy.

3 The design theory behind this display for Houbigant is that in some cases an all-transparent plastic display is apt to create the restless effect of products floating in air. The designers have combined wood with the plastic to avoid just this effect and, at the same time, produce a less expensive display. The upper surface of the display can be used to show any or all of the products of the line and the forward portion allows the customer to see the actual colors of the powder available without the need to open fresh boxes. Display designed by Nathaniel H. Freeman and Frederick Murray Breen, New York.

4 The return of the all-metal razor is celebrated with the design of this highly effective display carton which draws attention to the luxury-boxed Gem Micromatic razor complete with blades. A full-color reproduction of the package dominates the white circle in the backpiece and the rest of the package is a neatly pin-striped red-brown. A familiar slogan, "avoid 5 o'clock shadow," occupies a yellow strip along the front of the carton. Plates for Gem box, Bingham Photo Engraving Co., New York. Design, Norbert Jay, New York. Carton, General Carton Co., Brooklyn, N. Y.

(Page 124)





2



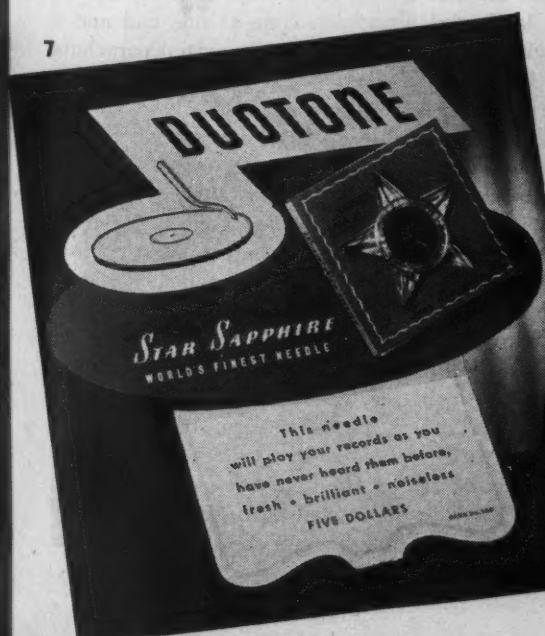
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5 A new Hudnut powder tester is made of wood, mirror and six small plastic tubes with shaker tops for cleanliness and easy dispensing. The tester is meant for the export trade and achieves drama with the simplest, most packable parts. The base is a pale green-blue, silk screened. The half-round back mirror, also decorated with silk-screening, slips out of its groove in the base and can be packed between two pieces of corrugated for shipment. The tubes also can be taken out and laid flat along the top of the display making a small, compact package. Designed and produced by C. L. Gregg, New York City. Silk-Screening, Schultz Sample Service, New York. Tubes, Cellulastic Corp., Newark, N. J.

7 This eye-catching, easel-backed display in four colors has been designed to show off the interesting new package for the Duotone Star Sapphire phonograph needle to best advantage. The display is so constructed that an actual package may be slipped in the slot provided. The container for the needle is a sparkling polystyrene star $2\frac{1}{4}$ in. in diameter. The plastic is grooved on the reverse side to catch and reflect light, giving a luminous effect. The outer folding carton has a film-covered window which allows full view of the star within. The hollow center of the star holds the needle, fastened to a blue cushion, and removal of the top is not necessary to show the merchandise. Design of package and display, J. Gordon Lippincott, New York.

6 A newly patented 2-way display is being used to advertise Enna Jettick shoes at the point of sale. This display, shipped flat, is easy to assemble and can be used to attract traffic from two directions at the same time as both sides are exactly alike. It has proved its worth particularly for use on counters or on an aisle table where the traffic moves in both directions. Patented and produced by Fandrich 2-Way Displays, Auburn, N. Y.

8 Three-dimensional displays that give a product and its setting lifelike proportions and eye-appeal are now being used to arouse appetites for B & M Brick-Oven Baked Beans. The one shown here depicts the interior of an Old New England kitchen with the baked beans baking in the authentic "down east" way. The other illustrates the same hunger-arousing operation as one views it from the kitchen's exterior. Display, Diorama Corp. of America, New York City.



7



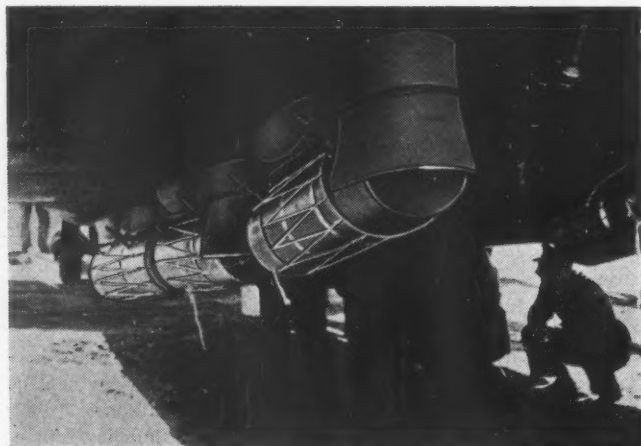
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Storpedo

... a parachute

delivery container



1—*Storpedo* aerial paper supply-dropping container used in Pacific warfare for precision dropping of stores and fragile instruments to troops inaccessible by land may be adaptable to civilian use for establishment of regular air-dropping delivery routes to consumers and retailers in remote areas. 2—Six *Storpedos* being loaded to bomb racks of C-47 plane. Bands encircling *Storpedos* permit attachment in this manner. Simultaneous dropping of entire load from bomb rack was advantageous during war, when individual releasing of the six loads by ejection from doorways would have required more time and personnel.

by land trails. In "free" drops, without the use of parachutes, 95% of materials were damaged; with the 24-ft. diameter parachutes normally used, 80% of the loads were carried by wind currents beyond chance of recovery and a large portion of the remainder were damaged by impact. The *Storpedo*, however, was used with almost 100% satisfactory results in bringing food, ammunition, instruments and other stores to our fighting men stranded in dank, dense vine-covered jungles and on precipitous, razorback mountain ridges.

The *Storpedo* may be hung on exposed bomb racks, fitted in bomb bays, or ejected from the doorway of a standard plane. Pay loads up to 200 lbs. can be dropped with perfect safety. The container will reach its designated ground area in approximately 10 seconds after its release, with great accuracy.

The *Storpedo* consists of a cylindrical cardboard container fitted with a laminated percussion cone at one end and a parachute bucket containing a small 12-ft. cotton parachute at the other, braced by a 7-point outer longitudinal lacing system. The container is 16 in. in diameter and has a storage capacity of 3.55 cu. ft. A 10-in. extension section can be fitted to the container to increase its capacity to 4.55 cu. ft. A larger container, 22 in. in diameter, was also developed to accommodate light, bulky items. The 22-in. type has a cubic capacity of 7 ft. and, with the 10-in. extension section, 8.95 ft. Weight of loads in either size of container, however, must not exceed the 200-lb. limit which research has proved can be handled by the 12-ft. parachute. Latest tests prove that stores may even be dropped in their original packages, fitted at one end with the percussion head and with a parachute bucket at the other; the cardboard container itself may be dispensed with.

Success in preserving stores from damage on contact with the ground is credited to the conical percussion head of the *Storpedo*. This cone is made of 8-ply chipboard which, on

Secret military information recently released reveals Pacific warfare use of an aerial paper supply-dropping container capable of parachuting loads which land in perfect conditions from a plane travelling 150 m.p.h. from a height of 500 ft. to a precise ground area no larger than a football field. The container will deliver from the sky items as delicate as electric light bulbs and fresh eggs without damaging them in any way. Details of the container development have been made known through Morris & Walker Pty. Ltd. of Melbourne, who did the experimental work and supplied the British Commonwealth with large quantities of the units.

The "*Storpedo*"—as the container has been named by its Australian designers—has possibilities for peacetime use in permitting the establishment of regular air-dropping delivery routes in rural areas. With this device, the dropping of parcels to consumers and retailers and the parachuting of mail to rural areas could well become a routine practice. Emergency delivery of food, clothing and medical supplies to inaccessible flood and forest-fire areas could be facilitated.

Aerial deliveries became a necessity in the early days of the South Pacific war. Tremendous waste was experienced in first attempts to supply troops who could not be reached

contact with the ground, crumples inward from the point of the cone in such a way as to compress the enclosed air up to 30 lbs. per sq. in. Thus, the energy of impact is gradually absorbed. When pressure reaches 30 lbs. per sq. in., the cone is designed to burst, which permits no recoil, and the container settles gently on the ground.

Although any good tube-rolling board of commercial quality is satisfactory, chipboard having an approximate tensile strength of 1,000 lbs. per sq. in. has been found ideal for the cone. Built up to a thickness which gives sufficient rigidity for handling, it will burst when the required pressure is developed. The designers point out that a metal pneumatic head would not serve the purpose. A foil of approximately $\frac{5}{1,000}$ thickness would be required to obtain the same performance in metal.

Eight blanks of chipboard must be prepared for each percussion nose. Cut on a carton-cutting press, they are glued and assembled on a conical former. The layers are carefully pressed together by hand, to ascertain that all layers are well in contact at the point. The composite cone is then lifted off the former and put in a hydraulic press, which is heated to accelerate drying. After being submitted to pressure, the cones are lifted out and air dried. The cone is then given a paraffin wax coating. Fitted with a cardboard diaphragm and a retaining ring, an external coating of paint especially prepared to adhere to waxed chipboard is applied to the assembly for added moistureproofness. The cone is then secured with glue and screws to the short cylindrical section of the percussion nose.

The cylindrical sections, made of the same chipboard, are

formed on tube-rolling machines. Material is fed in the reel over glue-applying rollers to a forming mandril. The machine is then set in motion by power, and the required number of turns is built up. The mandril is stopped and the guillotine knife cuts off the reel. A well-made tube can be cut to length within 30 minutes of winding. Tubes are trimmed to length on cutting mandrils and air-dried before waxing and painting. Cylindrical sections are assembled on jigs and riveted together.

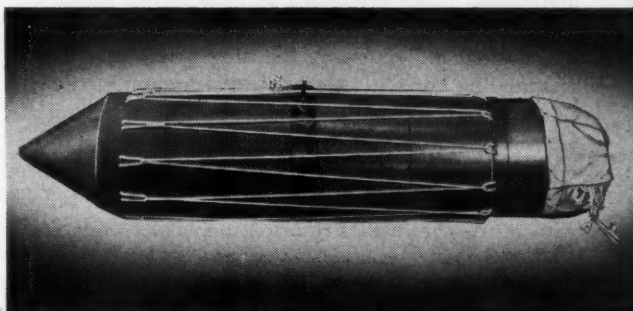
A short cylinder forms the base for the parachute bucket. A cotton duck parachute bucket nose is secured by rivets to the tubular section of the bucket. The 12-ft. cotton parachute, attached to a steel suspension ring, is carefully assembled into the bucket nose, the flaps of which form a closure. A bottom strengthening disc is then inserted in the bucket. The parachute suspension ring projects through the bottom of the parachute bucket and is securely laced into position.

Special multiple-punching machines are used to puncture seven sets of holes at even spaces around the circumference of the parachute bucket tube and the cylindrical base of the percussion nose. Loops of rope passed through these holes afford support for the longitudinal lacing system. Tests showed that rope having a 700-lb. tensile strength provides a lacing adequate to withstand the impact stresses of the parachute opening.

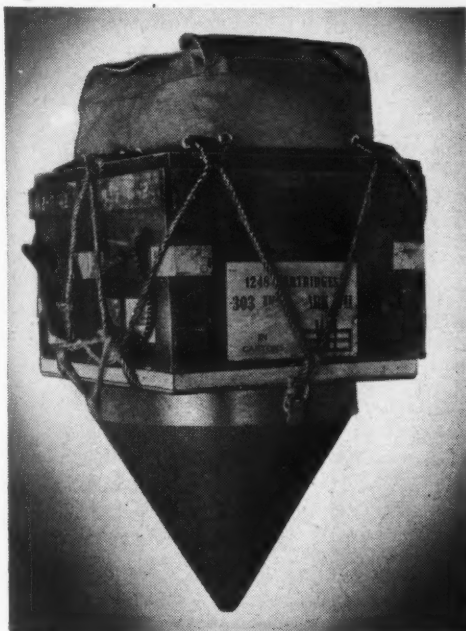
The total cost of the Storpado with its 12-ft. parachute is less than half the cost of the customary 24-ft. parachute. The rapid rate of descent permitted by the small parachute—approximately 10 seconds for a 500-ft. drop—reduces by more

3—Loaded Storpado ready to be attached to bomb racks. Note use of extension section. 4—Components of the Storpado before assembly. Left to right: percussion head, body, extension section, parachute bucket. In foreground are discs used to separate portions of the load, bands for attaching to bomb racks, cord for exterior lacing. 5—Storpedette, modified version of Storpado for commercial use, shown completely assembled. Load is in its original package. Cardboard body section is not used, and canvas pack replaces parachute bucket of the Storpado.

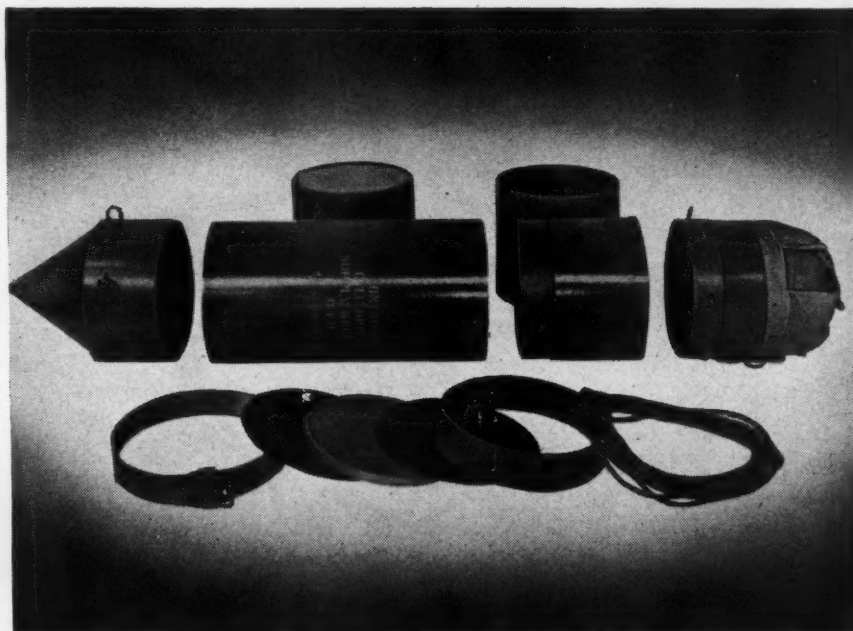
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5



4



than half the length of time the container is actually in the air.

The "Storpedette" is an adaptation of the device for dropping loads without the use of the container body. It retains the advantages of the Storpedo, yet obviates the redundancy of packaging for commercial use where goods are pre-packed. The original container is secured by a 6-point lacing system to a canvas parachute pack at one end and, at the other, a baseboard to which the percussion nose is attached.

The rectangular parachute pack, held in shape by a sheet of chipboard, is fitted with six eyelet rings. These eyelets provide means for the 6-point transverse lacing system. The baseboard is a 16-in. wood square, to which a square of chipboard, slotted to accommodate the six lacing cords, is rigidly attached. After the square is waxed, looped cords are fitted into the slots and four wood cleats are nailed to the board. The baseboard assembly is then painted. The percussion nose may be made in either conical or pyramidal form, depending upon the impact that the nose is designed to destroy; the conical form is the more robust type. Manufacture of the percussion head for the Storpedette is similar to that for

the Storpedo, aside from the insertion of four loops of braided tape between the nose and the cylindrical base. The loops provide the means for lacing together the percussion nose and the baseboard.

In assembling the Storpedette, the box of the pay load is placed on the baseboard; the parachute pack is centered on the top surface of the pay load, and the longitudinal lacing is applied. The package is then turned on its side and the percussion nose is attached to the baseboard by tying the loops of the nose to the longitudinal lacing.

The box of the pay load may overhang the edges of the baseboard to some extent without detriment. If the pay load is packaged in a cardboard rather than a wooden box, a cylindrical cardboard loading base 16 in. in diameter and at least 12 in. deep should be attached to the baseboard before the percussion head is attached. The loading base offers added protection to the pay load during impact.

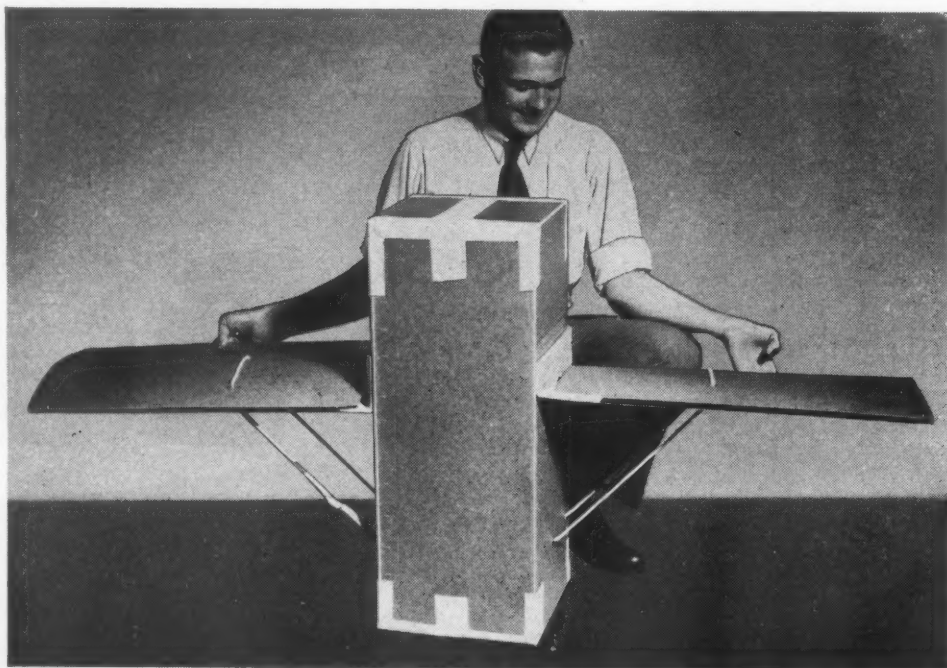
CREDITS: Australian Paper Manufacturers for the chipboard. Tylon Adhesives Pty. Ltd. for the glue. J. Davies & Sons and Michaelis Hallenstein & Co. Pty. Ltd. for the parachutes.

Free-fall container developed by Forest Products Laboratory

The Forest Products Laboratory, Madison, Wis., developed this collapsible, re-usable container at the request of the Army Air Forces, which needed a container that could be dropped from the air without a parachute. The fibreboard box has airfoil wings, also of fibreboard, which rotate the box about its vertical axis in descent, retarding the rate of fall and limiting the landing impact. Mechanical reduction of the rate of rotation, necessary to maintain the box in the upright position required for operation of the wings, was accomplished by use of an auxiliary fibreboard piece mounted on top of one of the wings. This piece billows with air as the rate of rotation increases, producing a

drag which counteracts the increase in the rate of rotation of the box.

Carrying net loads up to 75 lbs., the container performs satisfactorily when dropped from airplanes. The cost is only a fraction of that of a box equipped with parachute. A further advantage is that the free-fall container is less likely to catch in trees than a parachute, is less visible to the enemy, and is not dragged along the ground by the wind after landing. Possible peacetime uses include the dropping of supplies to isolated crews fighting forest fires, dropping of mail or express shipments, and delivery of supplies to remote communities not having landing fields.



Collapsible, re-usable fibreboard container which may be dropped without parachute.

Packaging Institute annual conference

New York—November 26-27, 1945



The 7th Annual Meeting of the Packaging Institute, held at the Commodore Hotel, New York City, on Nov. 26 and 27, was attended by 381 members. It provided the usual valuable meeting ground for discussions between packaging users and packaging suppliers.

Considering that the meeting was rather hastily arranged, following the lifting of the ODT ban on convention traveling, it was generally considered a successful and helpful program. Four panel sessions, which comprised the program, provided further consideration of some of the questions of postwar practice and technique which were brought out two months earlier at the American Management Assn.'s packaging conference, also held in New York.

The business meeting brought several interesting developments. Plans were announced for an international packaging exposition to be held in New York early in 1947 in connection with a proposed "National Packaging Week." The next regular conference was set for Chicago, in the fall of 1946. Walton D. Lynch, vice-president of the National Folding Box Co., was re-elected president of the Institute, and Maj. Albin P. Dearing, new executive secretary, was introduced.

In his annual report, President Lynch announced that machinery had been set in motion to collaborate with the British Printing and Allied Trades Research Council on projected studies of mutual interest to packaging industries of the United States and the United Kingdom.

The Technical Committee, headed by Charles A. Southwick, Jr., Technical Editor of MODERN PACKAGING, announced that it would have some specific reports to present early in 1946. The Documentation Committee reported that it would have an informational booklet on set-up boxes, similar to the plastic packaging report already issued, ready by the end of this year.

In separate business meetings, the production division elected as new directors W. O. Brewer, of the American Cyanamid Co., J. H. Maget, of Merck & Co., and A. F. Stevenson, of The Borden Co., the latter to fill out the unexpired term of T. R. Baxter, resigned. The machinery division elected as new directors H. R. Stewart, of the Economic Machinery Co., and George W. von Hofe, of the New Jersey Machine Corp., while the suppliers division named T. A. Torrance, of the Aluminum Co. of America, and H. W. Stevens, of the Benjamin C. Betner Co.

The annual banquet for members and guests, on the evening of Dec. 26, provided the only social interlude in the proceedings. William M. Bristol of the Bristol-Myers Co., acted as toastmaster and introduced Col. Nicol Smith, author of "Burma Road," who told the inside story of OSS activities which he headed behind the Japanese lines in Siam. A preview of a new "March of Time"—"The Invasion of France"—also was shown.

Chairman of the program committee for the entire meeting was F. S. Leinbach, of the Riegel Paper Corp., assisted by Mason T. Rogers, of Dewey & Almy Chemical Co., A. F. Stevenson, of The Borden Co., and Morehead Patterson, of the American Machine & Foundry Co.

Following is a summary* of proceedings during the four conference sessions:

MONDAY MORNING

Chairman: MASON T. ROGERS, manager packaging division, Dewey & Almy Chemical Co.

Army Packaging Research: ALBERT V. GRUNDY, *packaging and packing division, Office of Quartermaster General.*

The material required to fight a modern war is so extensive that shipping and transportation facilities rapidly become a bottleneck. Packaging materials should be most carefully scrutinized since they contribute nothing themselves to the maintenance of the Army. Yet despite this fact every case of K-Ration shipped overseas includes almost 21 lbs. of packaging and packaging materials for 21½ lbs. of food.

Lighter packaging is by no means a dream. Already many of the new plastic materials, films, plywood and metal combinations give evidence that the objective is within sight.

As you know, the conditions of climate, terrain and handling to which Army supplies were exposed placed a burden upon packaging material unduplicated in civilian use. Under such circumstances it was inevitable that failures would occur and it is perhaps a tribute to the industry that more did not occur than was the case. Here again products coming into use in the packaging field give promise that many of these difficulties can be overcome.

The Army intends to seek the active cooperation of the packaging industry in the solution of the many problems still to be solved. All of the packing, packaging and processing functions of the Quartermaster Corps Research and Development Branch will be consolidated at the Chicago Quartermaster Depot. There is also being transferred to Chicago the packaging laboratory formerly at the Quartermaster Depot in Cameron, Virginia. It was felt that because of the heavy concentration of the food industry in and around the Chicago area and because of the importance in the overall Quartermaster program of packaging for subsistence, the location in Chicago would facilitate to the maximum degree possible the cooperation between industry and the Army which is necessary if our objective is to be obtained.

It is our hope in this regard that now that it is no longer

* Since no official stenotype record of proceedings was made by the Packaging Institute this year, the summaries of speeches are brief and not necessarily verbatim.

necessary to operate under hectic wartime conditions, we will be able to work out specifications for packaging materials based on performance as measured by laboratory tests. At the same time the Army recognizes the fact that in the near future existing specifications in use by the armed forces will in some instances be revised incorporating less stringent requirements to reflect the resumption of more normal handling transit and storage conditions.

Paper Supply of Future: WALTER WILCOX, *S. D. Warren Co.*

Mills, as other industries, are now confronted with a re-conversion problem. Labor is slow in returning to the forests, and as a result there is no regular flow of materials to pulp mills. The shortage of wood pulp is of concern to the industry. Even if there were no depletion of the forests, the labor shortage would still create a bottleneck.

The labor problem is understandable. It is not easy to get men back in the woods, and this will take a long while. In addition, the wage scale of employees will have to be increased and labor will have to be placed on a higher plane. The labor problem can be helped by teaching the men modern logging methods and new mechanical innovations. In some places, classes have been organized for this purpose.

Aside from the normal shortage of labor, another factor has entered the labor situation. Prisoners of war who have been working in the forests will have to be replaced. The War Dept. has stated that they must be returned to Europe within a few months.

Pulp mills during the war received subsidies from the Defense Supplies Corp., with OPA approval, because the product was needed for the war and was essential to the civilian economy. The Office of Reconversion has recently stated that while subsidies will be continued, they will be subject to cancellation on 30 days notice. Operation is difficult under present price ceilings, and if subsidies are stopped, this action will further curtail production immediately.

The Scandinavian situation is another problem facing the industry. It is uncertain when supplies will be forthcoming from Finland, Norway and Sweden. Large stocks which accumulated in Sweden during the war period were imported, and these imports aided the situation to the extent of permitting the September 30 removal of controls. However, wood is now being used as fuel in Sweden, so the probability of further imports is questionable.

With regard to specialty papers, for two years the over-all supply will be reasonably tight because of (1) the pulp problem, (2) the labor angle and (3) the antiquated pre-war equipment now in use. Little more production can be expected than that of the January 1942 level. Any increase in production that will be forthcoming will be solely as a result of the ingenuity of the industry itself to produce greater supplies.

Specialty papers are competing with commercial printing and with magazines and books. Some magazine interests have bought mills, which adds to the pressure on other mills.

There are, however, some favorable factors that may be considered. Strides have been made in machine-coating principles. Early in the war, paper was considered a non-essential, and efforts were devoted to developing new uses for paper as a substitute for metals and other materials critical at that time. New grades of paper were developed, some with high wet strength, some greaseproof, some functional on one side and printed on the other. Others were used in com-

bination with different materials. A good job has been done by the industry in developing these new methods and these efforts along development lines can now be devoted to the benefit of the civilian economy.

Whether needs of the industry can be met in the next two years in so far as quantity and quality are concerned is unpredictable. A cooperative effort on the part of mills and industry should be made during that period. Mills are willing to work with industry in an effort to supply its need, and they are adequately equipped through their research laboratories to do so. However, it must be kept in mind that industry must assure mills of an adequate price for the qualities of paper it desires, and I urge that this be done.

New Developments in Paperboard Packages: J. D. MALCOLMSON, *technical director, Robert Gair Co., Inc.*

A great many technologic advances do come out of war, and this is particularly true in packaging and specifically in paperboard packages. World War I marked a big advance in the technology of fibre containers and folding cartons, but these were far out-stripped by the new knowledge that has come out of World War II.

At present there are between 35,000 and 40,000 retail stores equipped to handle frozen foods, and last year 600,000,000 pounds of these commodities were produced under 380 brand names. The editor of the leading trade journal in this field predicts that by 1950 there will be 250,000 retailers and 3,000 packers. The cellophane-lined folding carton is still the principal packaging method, and apparently will continue to be so in the foreseeable future. It is true that there are new packages now under test such as a combination of metal and paperboard, but the cellophane-lined carton has met the test of time and will be very difficult to improve upon.

Everyone is familiar with the new method of gluing corrugated containers together on a pallet to make a non-shifting unit load. However, less publicity has been given to the very latest development which consists of gluing containers together right in the freight car without the use of pallets. In this case a conveyor is run right into the box car and the last roller rotates in a pan of glue, thus applying adhesive to the bottom of the container just before it is lifted and placed in the pile. The result is that the whole carload moves as a unit. The glue theoretically is of such a nature as to permit the boxes to be broken loose at destination without too much muscular effort and without damage to the container. Let's hope that this is true because the corrugated industry certainly does not want to see its boxes torn and its printing copy defaced by a glue that holds too tightly.

Most of us are familiar with the fact that "A" flute board possesses certain characteristics and that "B" flute board possesses other characteristics, so that for certain uses one or the other of these two thicknesses is preferable. By far, however, the great majority of shipments carry equally well in either and for that reason we will witness in the near future a quite considerable growth in the use of "C" flute board which is intermediate in height and which combines the advantages of both "A" flute and "B" flute.

We understand that a lot of research is going on right now in the development of non-aqueous sealing adhesives which will speed up still further the operation of sealing a corrugated box or a folding carton. The idea is intrinsically sound and if the price is not too high, we are bound to see some very interesting developments in this direction.

The future for the fibre container industry indicates that

there are bound to be a great many new uses for these products. The war has shown several million G.I.'s all over the world how well these boxes carry, and, besides that, merchants in foreign countries, steamship lines and many other people have realized the value of the fibre container as both a safe carrying and economical method of shipping merchandise.

Plastics Packaging: MAJ. E. L. HOBSON, *plastics and packaging, Office of the Quartermaster General.*

It is hoped that war lessons learned on durable plastic packaging will be used in the postwar period. But plastics, besides imparting improved durability, also usually provide the color and decorativeness desired to make the package attractive. In many instances dual purpose and re-use packages can be designed which enhance the value of the product.

The plastics industry has certainly expanded during the wartime period. In 1939 a quarter of a billion of pounds of plastic materials were produced annually. In 1944 slightly over three-quarter billion pounds were being produced—a three-fold increase. And by the end of 1946 it is believed that over a billion pounds annually will be produced. It is important to note that in vinyl resins alone, on a dollar value of $7\frac{1}{2}$ million dollars in 1939, the industry was increased almost 16-fold to 117 million dollars in 1944.

Plastic materials heretofore unknown to packaging were developed into a sizable production. Polyethylene, as an outstanding example, was unavailable in 1941; now we have facilities for the production of over 9 million pounds per year. Ethyl cellulose, from a negligible production in 1937, now has a capacity for production of 12 million pounds per year. There has likewise been an increase in the production of materials of the low-pressure laminating type, and of nylon, silicone, melamine and resorcinol types.

Many of these materials have dropped markedly in cost because of increased production, and can be considered now for applications which were prohibitive from a cost angle heretofore. Polystyrene, as the most notable example, is quoted today at 29 cents a pound. Certainly there will be many places in which it can be used where previously it was automatically rejected because of its cost of 72 cents a pound.

How will this increased production capacity of plastic materials be utilized in a peacetime economy? Of course, the old familiar uses, such as phenolic and urea closures, cellophane films, molded dual purpose containers, and resin coated papers will be expanded. In addition to this, untraditional uses and processes will have to be accepted. Hot melt dips are now the accepted method for the packaging and corrosion protection of finely machined parts, tools and spare parts. Spray coating of large parts with expensive finishes which must be protected during shipment is practicable.

Vacuum and pressure molding of acrylic sheets was in widespread use at the war's end for bomber noses and blisters. This, too, has its place in the formation of dual purpose and re-use containers such as toy cars, which may be filled with candy, and cake dishes.

It is understood that there has been developed a method of forming square containers automatically, directly from rolls of material. Blown plastic bottles are probably familiar to all of you. Although expensive, a durable container of this type will be warranted for packing expensive items such as vitamin pills and other expensive medicinals.

Low-pressure laminating materials and techniques will be of advantage in the high cost packaging field. These materials do not require expensive dies and, therefore, can be used for custom packaging—not only for packaging expensive

instruments but also such things as luxury beauty kits, replacing leather and utilizing decorative effects with printed textile outer laminates.

During the war there was developed a postforming technique of molding which will perhaps allow the manufacture of fancy boxes by just scoring a sheet and then forming it. Square or compound corners may be formed.

Impregnation of molded pulp with plastic resins holds great promise in the field of disposable trays and cups for hospital use by the Army, as it is an inexpensive way of converting pulp forms which are affected by water and grease into a smooth-surfaced rigid form which is water and grease resistant. Previous experiments with wax impregnations were unsuccessful. This probably will be of immense interest to the container field, especially for containers subject to cold conditions in view of the fact that wax-impregnated products become brittle and tend to crack under cold temperatures.

Vinyl pastes have been utilized in Germany for the coating of jute for packaging of buna rubber, and in England for the coating of fabrics for packaging in order to achieve waterproofness and greater durability than film packaging. These probably will also be available in this country within the year.

Materials like polyethylene that have a sharp melting point lend themselves to a new form of hot melt spraying which should have many interesting applications. A method of flame gun spraying has also been developed in which a cold rod of the material is rapidly melted and sprayed. New methods of sealing by high frequency have been experimented with for use on materials which do not lend themselves to the more familiar heat-sealing equipment developed primarily for cellophane. Other methods, such as hot non-reactive gas welding (of both films and solid moldings) of polyethylene, will undoubtedly come into use.

Coated fabrics should find wider use in packaging where waterproofness with greater durability and abrasion resistance than can be supplied with films is needed. As an example of this, the "Cover, Protective, Individual" when formerly wrapped in cellophane rapidly failed in the field, but after the adoption of a coated fabric cement-sealed outer cover, failures from this cause were reduced to a very small fraction. In England fabric was used for emergency Red Cross packets, with a heat-sealed construction.

From these developments it will be seen that plastics, although not miracle materials as has been indicated by the tabloids, certainly have unique properties which open up new frontiers in packaging. In order that these new materials can be most effectively evaluated, the Quartermaster Corps has established a research project at the Institute of Paper Chemistry, Appleton, Wisconsin, to develop tests and test methods to give a more realistic evaluation of their properties.

I was asked by the Chairman to prognosticate as to what the 1946 picture would be in regard to plastic materials. As you know, the present market is a sellers' market, and practically anything, regardless of its packaging, can be sold. At the present time, and up until approximately June 1946, plastic materials are and will be extremely critical. The largest bottleneck is in equipment for conversion of raw materials to usable products. For example, there is ample capacity for monomeric styrene, the bottleneck being in polymerization equipment to make polystyrene. Similarly, there is a bottleneck in proportion to demands in the injection molding equipment. It is understood that there are orders on hand for over 1,500 machines. The industry would be fortunate if, by the end of 1946, 1,100 could be produced.

By June 1946, however, it is hoped that sufficient equip-

ment will have been constructed so that the majority of demands can easily be met. Of course, in so far as molded items are concerned, there is always a delay of several months due to mold construction.

Adhesives: F. P. BARTLETT, JR., *sales engineer in charge of specialties, Union Paste Co.*

The materials available to the adhesive formulator are myriad, and the combination of these materials reaches geometric proportions. Why, then, is not a higher percentage of your problems solved more quickly and more satisfactorily? There are multiple reasons: *First* are the limiting factors set up by you and controlled to a considerable degree by your fabricating techniques.

Second, perhaps, is the attempt by the adhesive supplier to solve the problem with a standard formula. This is a logical and mutually economical principle, if followed honestly.

I believe it is more unusual than common for this to occur when what I choose to call the "solution cycle" has been properly initiated. The solution cycle usually proceeds in three stages: first, the consumer presents the problem to an adhesive representative; second, the details of a problem are relayed via a liaison man between sales and research; and third, the recommendation is made. It must be obvious that if the problem is poorly initiated by the adhesive user, the "solution cycle" will bog down.

Now the successful completion of the cycle depends in the last analysis on the recommendation. This third step, in most cases, is soluble from multiple choices. The most successful choice is dependent on the first two stages of the "solution cycle" and the familiarity of the one making the recommendation with materials that fit the limitation.

You who have been connected with export packaging have had a vivid picture presented to you of the potential difficulties of any specialty adhesive problem. The formulator had many choices of raw materials whose residual film would give adequate waterproofness. Your application limited the choice of its vehicle, the surfaces to be adhered limited the raw materials incorporated in the formulation. Some situations demanded application from standard equipment, in others hand techniques were adapted, either of which was a limiting factor on the formulator.

From this, however, has been developed by the adhesive formulator a technique of suspending in water materials heretofore reserved for solvent vehicles, or the medium of heat loss commonly considered a vehicle. The hours of research that have been spent by all adhesive manufacturers in this development will in the future, I am sure, allow the adhesive user to initiate the "solution cycle" within much narrower limitations.

Specialty paper manufacturers can now hope for broader limits as to their particular paper being a material that can be handled easily by the fabricator. Machine designers can look to emulsions for speeding the production of their machine for sealing the more difficult surfaces. Machine designers will do well to become familiar with the application of emulsions.

Emulsions will not by any means be a cure all for your adhesive problems. They do, however, give much greater latitude in formulating for a specific use. Only the surface has been scratched in this type of formulation. Every new synthetic plastic material to a degree now becomes a potential adhesive material. The many new lattices find specific function as adhesives. Resins as they vary from one polymer stage to another and more complicated polymer may well

have their function in your adhesive problem. Many are difficult to formulate, but the adhesive industry can work out these details with your cooperation. The potential for solution is broadened.

Coated Papers and Implications Thereof: W. H. GRAEBNER, *Marathon Corp.*

There are numerous instances, particularly during the past twenty-five or thirty years, in which developments of several industries have complemented each other. Packaging in its broad application is no exception to this and the obvious case in point is the progress that has been made by suppliers of packaging materials, the machinery manufacturer, and the users of both.

Coated sheet materials have played a tremendously important role in this overall development and it would have been difficult thirty years ago to predict the scope and magnitude of their use. Since the turn of the century with the appearance of occasional patents on coatings and methods, there has been a continuously accelerating progress resulting in today's vast technology.

Probably no single sheet material embodies more than one or a few of the numerous properties frequently necessary to meet packaging requirements. Most papers, for example, in their unadorned state offer little more than a raw material, to be alloyed, we might say, with other materials and thereby build into them certain functional properties such as moisture resistance as one example. This reasoning may be applied also to the materials employed in the coating. Only rarely does a coating composition consist of a single ingredient and as a result, here also the analogy of alloying may be applied.

In general, coating compositions intended for application to a base sheet, whether it be paper, cellulose films or a metallic foil, involve the use of a key material commonly referred to as a film former. Usually these coatings are identified or typed by the film former that has been used. Hence, we have references to vinyl coatings, nitrocellulose coatings, et cetera. Generally, it is this key material that determines certain characteristic properties in the finished article. The film former more often than not is responsible for the type of chemical resistance, the degree of grease or water resistance that is obtained. It provides the basis for possible heat-sealing properties. On the other hand, as a rule, the film former is not responsible for moisture-vapor resistance and that property, if required in the packaging material, must be secured by resorting to proper formulation—frequently the judicious addition of waxes.

A partial list of film-forming materials would include the vinyl polymers already mentioned, cellulose derivatives, rubber resins, polyamid resins, and rubber—both synthetic and natural. Polyvinyl chloride, acetate and butyral are probably the most frequently mentioned of the vinyl group. This family of synthetics provides properties such as excellent chemical resistance, grease resistance and good heat-sealing properties. From the angle of moisture-vapor resistance they usually are considered relatively poor. For the most part, method of application is either solvent or by emulsion.

Among the cellulose derivatives we find one of the older and better known coating materials—nitrocellulose. Invariably applied from solvent in the form of the familiar lacquer type of composition, it can be formulated to include good chemical resistance, water, grease and moisture resistance. Ethyl cellulose is another material that is used rather widely due to its inherent properties. Although adaptable to solvent application, it is most frequently found

in hot melt compositions—particularly where heat-sealing properties are of interest.

The polyamid resins are among the materials developed during the war and are better known perhaps under their Norelac designation. They offer good heat-sealing properties and excellent grease and water resistance.

In this brief list of materials and a rather general description of their properties there were references to solvent and hot melt methods of application. To this must be added a third method by which some kinds of coatings may be applied—namely, the emulsion technique.

In some respects the emulsion system is similar to solvent coatings in that it involves a two-component system of solids and a liquid which serves in the capacity of a carrier. However, instead of employing an organic solvent such as alcohol they use the most common liquid of all—water. These types of emulsions, dispersions, or whatever you may want to call them, are not new as such. Nature has provided one such dispersion—rubber latex. Commercially made lattices, emulsions or dispersions also are becoming increasingly well known. An increasing amount of interest in this type of coating may possibly be attributed to the fact that the production of some of the new synthetics requires the chemical reaction to take place in water. Thus, a synthetic dispersion or emulsion is produced as an intermediate proposition and yields a potential coating material without the necessity of drying the resin and subsequent solution in an organic carrier.

The manufacturer does not always have a clear-cut choice with regard to the method he may use. It frequently is dictated by the basic elastomer or film former that must be used to perform a specialized job. As previously pointed out, the vinyl polymers exhibit excellent resistance to many chemicals. Thus, if chemical resistance is a requirement, one of the vinyls may receive the call and, in all probability, will not be a hot melt performance. The same condition holds true where the properties of nitrocellulose may be necessary, and in this instance a solvent application is definitely indicated. On the other hand, ethyl cellulose compositions frequently offer the solution to certain types of heat-sealing problems and hot melt applications turn out to be the desired method.

Occasionally a composition is adaptable to either method of application, and under the circumstances additional factors enter the picture, and the sheet material to be coated frequently is the deciding factor.

We are without question in an era of specialization, an objective viewpoint concerning packaging requirements, and objective appraisal of functional properties. Specialized packaging is here to stay, but the rate of its progress will be tied in closely with the cooperative efforts of the supplier, the consumer and the machinery manufacturer.

Transparent Films: CAPT. W. H. AIKEN, *Office of Quartermaster General.*

Capt. Aiken discussed packaging qualities and prospects of the various plastic films on the basis of the research program at Brooklyn Polytechnic Institute which he has been conducting for the Quartermaster Corps and the National Research Council.

He pointed out that there are two common ways of thinking about plastic films: either that they will do everything, or that they have no place at all in packaging. Both of these views, he said, are extreme, and both are unjustified. However, he conceded that they are understandable: first, because plastic films are relatively new; and, second, because their properties are so varied.

He made the point that no one film will do everything, but that each of them has some outstanding superior qualities—transparency, water-vaporproofness, greaseproofness, heat-sealability, strength, or others—and that films should thus be selected for the job they are to do.

He said that only in the last few years have plastic films been really desirable for packaging from a cost standpoint, and he pointed out two possibilities for continued lowering of costs: production of thinner films through new processes now being established commercially, and increasing production of raw materials, which always lowers costs.

The balance of Capt. Aiken's talk comprised technical data, most of which was presented in the August issue of MODERN PACKAGING in the article "Water-Vapor Permeability—What It Is and How It Works" (pp. 137-143, August 1945), of which Capt. Aiken was a co-author.

MONDAY AFTERNOON

Reconversion and New Techniques in Packaging Machinery—a panel session.

Chairman: CHARLES L. BARR, *vice-president, F. B. Redington Co.* *Panel members:* ANDREW J. B. ADAMS, *treasurer, Economic Machinery Co.*; L. F. BLACKWELL, *manager, Bottling Department, Pneumatic Scale Corp., Ltd.*; FRANK B. FAIRBANKS, *president, Horix Mfg. Co.*; GEORGE C. FERVER, *vice-president, Package Machinery Co.*; H. LYLE GREENE, *vice-president, J. L. Ferguson Co.*; BRYANT W. LANGSTON, *vice-president, Samuel M. Langston Co.*; GEORGE W. VON HOF, *president, New Jersey Machine Corp.*

MR. BARR: This is really the strategic time for machinery manufacturers to appear before prospective customers. I think that after all these years, I'm beginning to understand how Daniel must have felt as he contemplated the lions. We have accumulated a number of questions asked by some of you. . . . These are questions in the minds of all. . . . First, why are packaging machinery manufacturers requiring so much time for the filling of orders?

MR. GREENE: We have accumulated a backlog of orders due to the fact that they were on war work. That, plus the increased demand for machinery since the war, has resulted in our inability to make prompt or reasonable deliveries. We are short of plant workers; the engineering department personnel is not what it used to be. It is difficult to obtain certain materials. All of which makes it impossible to make deliveries and there is nothing we can do about it at the moment.

MR. BARR: Under normal conditions how long a time is required to make deliveries?

MR. GREENE: Anywhere from 2 to 6 weeks on certain equipment. Packaging machinery from 60, 90 or 120 days even when we build them specially.

MR. BARR: Would you care to comment on comparative time required to fill orders now?

MR. GREENE: We've been quoting delivery promises anywhere from 6 to 7 months up to 20 months, and on some machinery we don't make any promises. (Laughter)

MR. BARR: Very comforting. . . . Another question that is just slightly different in wording. . . . What can the customer expect on future deliveries? Mr. Adams, would you care to answer that?

MR. ADAMS: On future deliveries, sub-contracting may to some extent alleviate the situation. As far as deliveries are concerned, we say 16 or 18 months. You get your name on the list. Future deliveries placed now will be made in 1947.

MR. BARR: We don't manufacture as nearly standard ma-

chines in some cases as you do. Ours are pretty specifically designed in almost every case before they're manufactured. At the present time we can't see the possibility of delivering anything in the way of a new order before the latter part of 1947. There are possibilities that may improve that. For instance, there may be on our list some speculatively placed orders that will be cancelled, but the likelihood is that the entire packaging machinery industry has arrived at a new level of demand. Between now and the middle of 1947 we ought to be able to do something about it.

MR. BARR: Is there any tendency on the part of machinery manufacturers to hold back production awaiting price reduction?

MR. FAIRBANKS: We're all producing at a greater rate of production than we did prewar. Labor costs have increased 35%, material 50%, yet we are selling at almost 1941 prices. There is a definite price squeeze. We know of no one who is not anxious to step up production.

MR. BARR: I take it upon myself to say that there is not any holding back for price adjustments. We are producing more volume by 100% than we ever did in our experience prior to the war. We are as eager to fill orders as our customers are to get them.

How many of our customers are demanding deliveries that they do not need? In other words, how many speculative orders have we got on our books? We keep wondering whether or not our customers are just in the mood to demand, and are demanding deliveries they don't need.

MR. ADAMS: Judging by the orders we receive, they all want deliveries yesterday. We have had instances where we've broken our necks to make shipment. Then through coincidence we happened to be in the city where delivery was made and found the machine wasn't even uncrated after two months. Other times the customers have made demands for delivery before the machinery was needed, thinking that it might come six months later.

MR. BLACKWELL: Some cases show that customers are asking for fully automatic equipment rather than semi-automatic, when the latter would do.

MR. FAIRBANKS: Sometimes we deliver and then find the customer isn't ready for the machine and won't be for about another six months.

MR. LANGSTON: We've run into the same thing, but to a somewhat lesser extent. Our machines sometimes require special buildings. We have found that sometimes machines are ready for delivery and buildings are not ready for them. Some machines take four or five freight cars and it presents a problem. The hold-up is sometimes pretty serious because of the amount of money involved.

MR. FAIRBANKS: Some customers in the food processing field must be given preference so that they can get the machinery in time for the canning season. Otherwise delivery might just as well be held up until the following season.

MR. BARR: On the question of the possibly expanded demand for packaging machinery, I wonder whether Dr. Laurence V. Burton of *Food Industries* magazine would care to offer comment. I'd like an outside opinion as to whether or not this accelerated demand for packaging machinery is only current or represents a new level.

DR. BURTON: The thing we must realize is that there has been an increase in population of about 6% since the war began. There are going to be a lot of new plants. Where is this increase of 6% going to locate? In war areas? I think we are facing a larger total volume.

MR. BARR: How can users of packaging machinery help

manufacturers of packaging machinery in their present situation?

MR. GREENE: I believe they can help. I think if users of packaging machinery would really make a point of babying their present machines along until new machines are available, they could get more out of their machinery.

MR. BARR: The maintenance service has been passed on to the machinery manufacturers and in a good many cases they have been able to supply the services suggested.

We understand that most machinery builders increased their production during the war. Why hasn't this increase been reflected in peacetime production?

MR. FERVER: It is a fact that the packaging machinery manufacturers did greatly increase their capacity during the war. But there are factors in that which don't lend themselves to optimism. Unskilled workers were taught to do a repetitive job and did that job well, but such workers are no good on our type of specially built equipment. The draft took all our skilled young men. With a backlog four times as great and capacity only twice as great, you can see how deliveries will be late.

MR. VON HOFE: We're just about as bad off as the rest of them. We're promising 12 months for standard equipment. Specially built orders are now promised in 1947.

MR. BARR: When should a packaging machinery manufacturer present his "after-Victory" models of machines?

MR. ADAMS: That depends on the customer. The customer would willingly pay more money if he could get it now. The "after-Victory" model machine may be a 1941 or 1942 model with a new hood or more chrome on the fenders, as in the case of automobiles, and more impressive in appearance, but fundamentally the machine hasn't been changed, to speak of. We are in position to deliver our prewar models in probably 6 to 9 months earlier than we can deliver our "after-Victory" model. We can deliver a prewar model that will label bottles and enable the customer to get out his production, if that is what the customer considers paramount at this time. If the customer can get along with his present equipment, we can then work on "after-Victory" models. I refer to a machine that will label 200 bottles per minute with a right- and left-hand feed. We can also at the end of next year give him an "after-Victory" model which will label 200 bottles per minute with one feed which will require one as against two operators. Therefore, it is a question with us as to what is expedient with our customer.

REPRESENTATIVE *Sharp & Dohme*: I should like to know whether equipment ordered now for 18 months delivery will be out of date two years from now?

MR. BARR: I'm torn between two answers. Actually we have not in contemplation anything radical in the way of basic design. We'll find ways for improving certainly, but we have no plans in mind for a big change.

MR. COREY, *Peter Cailler Kohler*: Is there any chance that sub-contracting would break the bottleneck?

MR. VON HOFE: We've investigated the possibility, and naturally our prices are still fixed and I am sorry to say that the cost of sub-contracting varies from two to four times our factory cost.

MR. FERVER: We answer that that's impossible. There is far more involved than just being able to read a blueprint. People have to know how to do it. In many production industries in a few years sub-contractors learn to do a good job, but with our machines we can't do it. Sub-contractors don't know how to make the parts. You've got to give the work to good mechanics. Sub-contracting is not the answer. We do

it to help out customers but we can't make any money on it.

MR. BARR: What effect did special development for war work have on new types of packaging machinery?

MR. FERVER: The engineering department during the war was composed of experts at doing a particular problem. The effect on our own developments was not very great, but development work did not stand still because these war jobs didn't come in a steady flow so there was a little development work going on all the time. Machinery now in production has new developments in use. One of the biggest gains from the war is the machinery manufacturers' point of view—working with new processes and new materials.

MR. BARR: I would like now to direct our thoughts along lines of new types of machines that are contemplated. What are a few of the new machines now in the process of development?

MR. GREENE: We have in our own place about half a dozen good engineers who are spending practically all of their time developing new types of packaging machinery. A few are: dry filling equipment, new methods of loading bottles and cases, sealing cases and various improvements of existing machines.

MR. BARR: Our company is working on new types of butter packaging machines that will be of interest to producers of butter.

MR. FAIRBANKS: I hesitate to say too much about it. Most are now in the drafting-room stage and it will be a long time.

MR. BLACKWELL: It is very, very difficult to get a development in the plant or through the plant. The boys are coming back and they want to start in as first-class designers. Detail men you just can't find. Consequently development is very, very slow.

MR. CULLOM, *Celanese Plastics Corp.* (from the floor): In regard to automatic equipment for transparent containers, through F. L. Smithe, a machine will be available for the making of small round transparent containers. That container is not suitable for most packaging purposes. There will be ready a machine for making larger size containers but not until 1946. Two companies will make machines for making rectangular boxes but these will not be ready until the first quarter or perhaps the second quarter of 1946.

MR. BARR: What is it that people are looking for in machines, such as automatic stops, etc.?

MR. GREENE: Some people have indicated a great deal of interest in streamlining, one-shot lubrication and safety factors.

MR. LOVE, *Bristol-Myers*: Designs of machines are individual in each case. I don't think there has been any mention of standardization guardage. You can buy machines unguarded and you can guard them. Where you have a number of machines from various manufacturers, unless those manufacturers can get together, and that doesn't seem too practical, I think the streamlining is going to be left to the consumer, unless some coordination of guarding is possible.

MR. ZAHN, *Ciba Pharmaceutical*: Machines designed with foot pedals, stop and starting buttons should be given consideration to have these controls in efficient positions coordinated with time and motion studies.

MR. STEVENSON, *The Borden Co.*: Things to look for in fillers, for example, is the method of cleaning, the way you clean the equipment. You've got to sooner or later make what we term a sanitary machine. Machines should be such that they should stay clean—should not catch dust, drippings, etc., and after only three or four hours' use should look as

though they had been cleaned that day. Food and Drug inspection is becoming more and more rigid. Machinery men have got to help us out by building machinery that doesn't mess up for at least half a day.

MR. NITSCH, *Stokes & Smith*: From our war experience we have found that there are too many working parts below the table. (Referring to filling machines.) We think that radical changes are in order.

MR. LYONS, *Johns-Manville*: You mentioned that you may have to expand. It might pay the machinery group to see whether you can't lick this problem of sub-contracting. It has been done by other industries—Sperry, for instance—and if studied it probably could be done to a certain degree in your industry.

MR. LANGSTON: We have a very good picture of what is required in quantities so that you could do it practically. I don't think there is enough of similar packaging machinery. In most cases, the packaging machinery builders don't have a volume that a sub-contractor could get going on to make a profit.

MR. WALLACE, *Standard-Knapp*: You can't give a sub-contractor a job unless it is one that is repetitive. We give out just as much as we can, but it is not a panacea.

TUESDAY MORNING

Chairman: A. F. STEVENSON, general superintendent, *The Borden Co.*

Transition from Wartime to Peacetime Packaging:
E. F. TOMISKA, *Western Electric Co.*

We pride ourselves on being the most progressive nation on earth, and I agree. Yet, we are prone to resist change. At one time, we didn't think we needed V boxes in spite of considerable evidence that our prewar ideas of what constituted a good paper shipping container weren't good enough. At another, we were sure there was no satisfactory substitute for a metal can for some products for which we eventually developed suitable paper or glass containers, and so on. We must be careful not to let that kind of thinking lead us to false conclusions in our transition back to peacetime packaging. We cannot accept the basic principles of packaging requirements as they existed on V-J Day as the correct answer. Neither can we revert to our prewar practices entirely. We have a brand new set of circumstances and we must alter our production, packaging, and distribution systems accordingly.

With specific respect to packaging, I think one of the outstanding benefits that will be derived from our wartime experience is the better appreciation every manufacturer will have of the importance of his packaging job. For the first time in their lives, many manufacturers learned that good packaging is an engineering science that cannot safely be left in the hands of any shipping clerk using any kind of materials that are readily at hand.

The transition from wartime to peacetime packaging immediately breaks down into two major phases:

- A. The extent to which substitutes will retain their position in the packaging of products forced into them by wartime material shortages.
- B. The extent to which packaging developments brought about by wartime necessities will have a place in our peacetime economy.

Either phase could well be given more attention than is pos-

tible with the time at my command and, therefore, I am going so pause only briefly on phase one.

We all know that some substitute packages proved superior in one way or another to their prewar predecessor. These will undoubtedly remain and as time goes on will be further improved upon. On the other hand, manufacturers and consumers alike tolerated certain wartime substitutes because there was no choice. I for one will be glad when I can again carry my talcum powder around without dusting everything in my toilet kit with it. These inferior packages will disappear as better materials become available, and I think that transition will pretty well take care of itself. The improved package won't always be the one we had before the war, for the greater abundance of new alloys and new plastics will have their influence.

In any discussion of the second phase of this subject, I think that we must first bear in mind that wartime packing specifications were designed to get the product to destination in usable condition, regardless of cost. Naturally and rightly so, this led to some over-packaging, a condition we can very well tolerate in a war, but one that we cannot afford in our peacetime economy.

In giving thought to the extent to which wartime developments will have a place in our peacetime economy, we should examine the factors which influenced the Armed Services in establishing their requirements for higher protection against mechanical damage and corrosion, and compare these factors with the treatment goods moving in the commercial trade may normally be expected to receive.

We should examine the factors which influenced the Armed Services in establishing their requirements for higher protection against mechanical damage and corrosion, and compare these factors with the treatment goods moving in the commercial trade may normally be expected to receive.

1. The Armed Services maintained throughout the war that they could not forecast the ultimate destination of most of the matériel they purchased. Consequently, packaging requirements were established to meet the most severe condition with respect to in-transit interval, storage conditions, and atmospheric conditions. In a peacetime economy, I think it is safe to say that the manufacturer does have a pretty good idea of the ultimate destination of his product and can gauge his packing requirements accordingly.
2. The wartime in-transit interval was extremely uncertain. As a matter of protection, ships traveled in convoy and the top speed of the slowest ship set the pace for the entire convoy. It was necessary to make long devious detours to avoid enemy action. This resulted in shipments being kept for abnormally long intervals on the high seas where they were exposed to the corrosive elements of condensation within the hold and to prolonged exposure to the sea air. We can expect, I think, that peacetime export shipments will travel the shortest possible route and that to meet competition the steamship lines will do everything in their power to shorten the in-transit interval. For example, the other day my attention was called to the fact that a shipment from Norway arrived in this country in nine days. This compares with an average prewar interval of fifteen days.
3. Many Government shipments were reshipped a number of times within this country before going to the port of embarkation. Add to this the probability of re-direction from overseas ports, due to changing lines of supply,

and it is evident that much of the war matériel was re-handled many times. Moreover, many of these re-handlings were unavoidably rough because of the lack of adequate facilities and the shortage of experienced personnel. In contrast to this, we can expect the normal export shipment to be forwarded directly from the factory or distribution warehouse to the steamship pier where it will be given adequate protection in storage and more systematic treatment in loading into the ship's hold. Consequently, the possibility of mechanical damage and deterioration due to exposure will be greatly reduced.

4. Because of the bombed-out condition of many foreign ports, it seems reasonable to expect that for some time to come export shipments to the war-torn parts of the world will require protection against some abnormal handling and exposure. However, under the most extreme conditions, we can expect some semblance of organized handling and storage facilities which will be quite different from the situation experienced by the services in unloading supplies on remote beachheads where the best storage space available was a bottomless marsh, and the only handling facility was untrained manual labor.

With these basic facts in mind, the degree to which wartime developments will have a place in postwar shipments will depend primarily on the distribution channels through which a particular product will flow, and therefore, I think, is in the final analysis something each manufacturer will have to determine for himself.

Certainly, the vaporproof laminations, both transparent and opaque, should prove their worth in packaging hygroscopic products which deteriorate rapidly under unfavorable atmospheric conditions. Manufacturers of unpainted hardware and machine parts, which normally have a long shelf life, will do well to weigh carefully the benefits to be derived from the use of foil barriers and plastic dip coats in reducing loss due to corrosion. And, of course, the waterproof papers available to us today are superior to their prewar counterparts and should continue in popular demand. Where these materials fit into the picture best must, of course, be determined by weighing the added cost against distribution loss and consumer reaction. While the performance under wartime conditions is indicative, that alone does not insure them a place in our peacetime economy.

I think I can best illustrate the point I am endeavoring to make by describing the decisions we, in the Western Electric Co., have made with respect to our peacetime packaging for export shipment. We are a manufacturer of electronic and wire communication equipment. Most of our products are made to customers' order and move directly from the factory to installation on the customers' premises with the minimum delay. We did considerable business with the services and, during the latter part of the war, practically everything was packed with vaporproof protection. However, we feel the need for this type of packaging will be limited in our peacetime business and, based on our wartime experience, we have reached the following general conclusions:

1. Our export wooden containers will be constructed of Type 2 waterproof plywood without the toxic dip. The toxic dip was a technique that was developed to minimize the growth of mold on plywood containers when exposed to the elements in tropical climates for prolonged periods of time. We feel this added protection will be unnecessary under peacetime conditions. How-

ever, the waterproof adhesive developed during the war proved far superior to the starch glues used in export containers prior to the war and is well worth retaining.

2. These containers will be lined with unsealed waterproof paper. We will use one of the 12-hour papers described in Government specifications as E-2, L-2 or M. Our wartime experience disclosed that it was extremely difficult to prevent puncture of sealed barriers, either by nails or abrasions occurring in the packing operations, and that when the sealed barrier was punctured, it did more harm than good because it acted as a bucket and any moisture penetrating the barrier remained within the package. All things considered, we feel the unsealed liner is safer and will accomplish the desired result.
3. We will strap all wooden containers of style A, that is, overlapping top and bottom construction. We will not strap wooden containers of style B, that is, three-way interlocking corner construction, having a gross weight of less than 500 lbs. Boxes weighing 500 lbs., or more, will be strapped over the end and intermediate cleats. We are strapping all style A boxes to minimize pilferage, as well as provide reinforcement, whereas on style B boxes, we require the strapping for reinforcement only.
4. We will use flat strapping.
5. All straps will be stapled at 6 to 8-in. intervals.
6. Corrosion prevention will be supplied only when specifically requested by the customer. When so requested, the amount of protection will be based, for the time being, on Army-Navy Standards.
7. We will use few corrugated or fibreboard containers constructed of V or W board because our cartons will be enclosed in wooden shipping cases and we feel commercial grades of fibre boards will be adequate. However, we are interested in the development of a solid fibre sheet having the high-dry strength qualities of V board as a sheathing for cleated boxes.

From the User's Viewpoint: WALTER J. BYRD, *packaging engineer, Johnson & Johnson.*

Bill was walking along the roadway carrying a paper bag which was filled with something heavy. As he passed a parked car one of its occupants called out "Bill, what have you in the bag?" Bill's short answer was "Milk!" A bit surprised but determined, the motorist said, "Why you can't carry milk in a bag." Bill who by this time had passed the car turned around and said "Oh yes I can—Cows do."

This little anecdote illustrates very pointedly what is going to be expected of packages in the future. They will have to sell the product in a highly competitive field, protect it from all sorts of conditions and dress it up regardless of whether it is fat or slim, tall or short and tiny or large.

The war has left us with several outstanding problems for the future. The first is a tremendous growth in self-service. This means an even greater necessity for packages to be attractive and appealing. We all know only too well what the second major adjustment is that we face—labor conditions. A third area of change brought about by the war is intensified specialization. Our high war production has made us the envy of the world and we are going to have to maintain this efficiency if we want to hold our leadership in the world economy.

There are many other factors that have been affected but it seems to me that these three trends are the most important to us, to-day.

Packaging equipment manufacturers will have to modernize

and improve many machines which now make old-time containers. Such packages have gotten by in a sellers market but how far will these same put-ups go when they have to speak for themselves on an open counter surrounded by peppy little streamlined competitors?

The open display of products will mean that many more items will have to be packaged. Also it will be necessary for the package to display some part of the contents in order that the buyer will not be misled.

In many cases labor constitutes from 10 to 60% of the manufacturing costs. If labor succeeds in winning increased wage demands and selling prices are kept at current ceilings, packaging equipment machinery will have to be developed to such an extent that most of the manual packaging operations will be eliminated.

For the past several years Johnson & Johnson have been packaging one of their products in a sealed container. Recent surveys have proved that the customer likes this protective packaging as it keeps the contents from being handled while on the store shelf. In connection with our packaging program it was decided to make a slight change in the put-up in order to keep abreast of packaging trends. Before the change was effected we tried to find a machine that would apply a small printed pressure-sensitive adhesive label to the top of the container. In addition to the consumers' views this label would help reduce pilferage and insure a sterile product until opened by the customer. At present it looks as if we will have to apply these labels by hand as we have been unable to find a machine supplier who can tackle the job.

Not long ago I visited a large Pharmaceutical plant here in the east. During my trip about the plant I noticed many girls inserting special caps on tubes. I know there is in existence a machine which mechanically applies similar caps. Perhaps only minor changes would have to be made by the machine manufacturer in order for his machine to do a good job, thereby saving the drug company many thousand dollars a year in manual labor. Packaging equipment manufacturers must keep in mind the lowering of manual operations in all their future equipment.

As I said before, the coming years will be marked by a greater demand than ever for improvement all along the production line. We have not only got to keep raising our standard of efficiency for local and national competition but we can already see the shadows of world competition following about us.

Considerable research is going to be required for self-service display. New materials are going to come on the market which require chemical and engineering analysis for suitability as wrappers, protectors and displays of our products. The never ending race for lower costs demands constant research for improved methods of producing containers and packages.

It seems to me that packaging research has become such a vital problem that it is now up to our suppliers of both equipment and materials to give us more cooperation in meeting our individual plant needs. Modern producers spend considerable sums in research on the usefulness of their product to the consumer. Packaging machinery producers and materials suppliers should be equally aware of their responsibilities to manufacturers who use millions of dollars worth of their products.

It is impossible for me to be constantly visiting board suppliers in search of suitable materials for certain jobs. Even when I am able to visit these mills and get samples of the latest carton materials, I have to spend considerable time test-

ing each sample under numerous conditions to determine the best board for our needs. If I have to follow this procedure for every one of our many products and the various materials that go into the containers for these items, I would be spending all my time testing and traveling. On the other hand see how much more efficient it is to have connections with a paper board house, which solves the problems through its own staff of board experts. I cannot emphasize too strongly the need for assistance from the material supplier who employs expert specialists to help solve manufacturers problems.

Another problem that the manufacturing department at Johnson & Johnson was having, involved the necessity for double wrapping certain products before sterilizing. After the sterilization process had been completed the item was then placed into a carton and sent to the customer. Unfortunately the carton would not withstand the terrific temperature subjected to the filled package. Presenting this problem to a materials supplier did the trick. Six months later a new type carton material was offered that stood up well under the rigid sterilization test. Consequently, one wrapping was eliminated and new methods were established whereby the cartons could be filled directly at the place where its contents was made.

I feel that equipment and supply manufacture will make great contributions to the packaging industry by working with plants to supply the materials or equipment needed for a given manufacturing job.

Packaging's Opportunity: KENNETH R. MARVIN, *industrial engineering dept., Eastman Kodak Co.*

If there is anyone in the audience this morning who cares to dispute the fact that many packaging problems have resulted from the change from war to peacetime economy, I'll be glad to have him come up and take my place. These problems may differ somewhat among the several industries, however, all have as a common problem the production of better packages; nor is this problem one which will vanish when the period of transition comes to an end. It will continue to be the goal of production to provide packages which afford better protection, greater utility and more attractive appearance at lower costs.

The packaging problem at Kodak is somewhat unique due first to the wide diversification of products which require a large variety of package styles and sizes, as a matter of fact, we have to provide packages for some 35,000 different products and secondly the fact that we produce a high percentage of our own packages. The problem is further complicated by the fact that the several manufacturing plants in Rochester are located at some distance from one another. Therefore our problem is how to achieve the goal of better packages for all products manufactured by all plants.

I believe the problems confronting production today afford an opportunity. It may be presumptuous for a newcomer to this group to say packaging now has an opportunity. We who live with the problem know how important it is as a part of industry's function. But how about industry as a whole?

War packaging made the importance of packaging felt right down the production line. Emphasis placed on protection gave impetus to the physical or structural aspects of packaging.

On the other hand, sales, advertising, merchandising and trade are starved for the individuality, the merchandising appeal, the advertising value and the utility offered by a well-designed package.

If we act courageously, quickly and intelligently we have

a unique opportunity to capitalize on this condition. Industry is still at a point where the all important consideration of *protection* is fresh in mind. They *know* what poor packaging resulted in during the war—in waste, rejects, failure of product. Conversely, with all the headaches, cost, etc., of protective packaging, they know it *delivered* the goods. Therefore, it will take only well-planned "selling" to promote extensive consideration being given to the idea that a program of physical packaging should become a *must* in any industry's peacetime packaging organization. Packaging for merchandising appeal, well established prior to the war needs no urging to regain its foothold. However, it is essential that a well-planned system of coordination be established to insure that the two objectives of packaging be carried to a common goal. The trade will demand better protection as well as convenient, good looking packages. Market conditions, increased competition and new modes of transportation have further emphasized the need for coordination of *all* packaging considerations.

How can we best avail ourselves of this opportunity? I'm not going to be repetitious. The plan Kodak has for making the most of its opportunity to do a good packaging job was covered in some detail in the October issue of MODERN PACKAGING.* However, the fundamental theory behind its new organization can illustrate the points which, in my opinion, are important in a progressive packaging program.

First there must be a means of obtaining facts, ideas and demands having to do with packaging any given product. There are four basic sources of information concerning packaging: (1) manufacturing; (2) package supplier; (3) sales and advertising; (4) trade.

From manufacturing comes information regarding change in product form, weight, quality, keeping characteristics, as well as new production methods, materials, and equipment. Also there is the all important consideration of cost. It is our experience that the individual manufacturing department is very critical of any packaging problem which increases cost.

The package supplier tells us of new designs, new materials, new methods of package fabrication, as well as advising the use of materials which perform efficiently on package fabricating machinery and also suggesting designs which result in the most economical utilization of stock.

Sales and advertising are of course the "high court" in determining the package which will "sell." Also such information as volume, distribution, type of sales outlet, selling price of product, merchandising requirements of the package and its probable use by the customer, as well as product naming, selling copy, etc., are derived from these departments. The trade, or the fellow we are in business to please, makes frequent suggestions, demands or criticisms of how, whys and wherefores. Many of these are crackpot—Rube Goldberg—ideas. Nevertheless, the alert packaging organization will require that all such comments and inquiries be brought to its attention for analysis. Sometimes "There's gold in them thar hills."

How can this information be accumulated? Our method is by the use of what we call check lists. A merchandising check list, drawn up by the Package Design Service, is submitted to the sales, advertising and market research departments for their comments. When completed, this list will give preliminary answers to the questions. Another check list, prepared by the Physical Package Service, is submitted to the interested manufacturing departments and the package supplier through the plant packaging representative. These

* See "35,000 Kodak Packages," MODERN PACKAGING, October 1945, pp. 91-100.

two check lists serve to accumulate facts on packaging from the basic sources of information, namely sales and advertising, manufacturing and package supplier. Also the market research department, together with a growing file of "comments" from customers reflect the trade's wishes in regard to packaging. This latter source of basic information is to be more extensively covered by periodic field trips made by members of the packaging organization.

I would like to show an example of a package which we have recently put on the market which will illustrate the use of the check lists. This package is for Universal MQ Developer.[†]

An important phase of the development and preparation of a package is testing. Here again we make use of the check lists. They tell us what to test for. If the comments on consumer usage are indefinite or the answer to merchandising requirements inconclusive, the Package Design Service will undertake market tests, trade surveys or dealer questionnaires, in cooperation with sales, advertising and market research. The Physical Package Service has as a part of its immediate program the equipping of a package proving room for conducting physical tests on finished packages, both unit size and in case lots. This is a new venture at Kodak and we are equally full of enthusiasm and questions in regard to it.

For example we are anxious to investigate the possibilities of cyclical rough-handling tests. Another thought we have, which was suggested originally by conversation with one of the packaging engineers at Container Corp., is the possibility of an analysis of just what occurs in the way of *drops*, *shocks* and *bumps* to a packaged product from the time the product is put in its unit package until the customer receives it from the clerk in the store. An ambitious undertaking—sure—but wouldn't it be a pretty good scale against which to calibrate rough handling tests in the lab? You will remember that there were several questions on the check list such as: "Does the package protect against chemical change," "Is it light tight; is it moisture-vapor resistant, etc." Determination of these characteristics which effect the quality of the product will be the responsibility of the manufacturing department where specially equipped laboratory facilities are available for conducting tests of this nature.

Writing complete packaging specifications is the third step toward making the most of packaging's opportunity. We have found it advisable to divide our package specifications into two groups. The General Package Specification provides a concise description of the complete packaging of a given product. This description covers inner packing, unit packing, intermediate packing, inserts and shipping case. On this form also appears the weight of the product and packing at each progressive stage. A list of component parts of the packing described is given and reference is made by number to supplemental specifications. Finally the quantity of packaging material per unit of product is specified. Detail Package Specifications supplement the General Package Specification. Here are given dimensions, raw materials, performance standards, sources of supply and any other pertinent data having to do with the particular box, label, can or carton covered by the specifications. Detail Package Specifications are further supplemented by Raw Material Specifications for such materials as paper, paperboard, wood, metal, etc., and also by stock lists covering adhesives, inks and stitching wire. All of us became familiar with packaging specifications during the war. We read, digested, modified,

appealed, praised and cursed government specs until we were black in the face. But remember the weight they carried, how they were quoted and referred to in almost every conversation whether with "Joe Dokes" in the shipping room or in conference with management. The spec made itself felt, it became almost law and in many instances the packaging engineer held the floor in discussions involving production problems, supply problems or even policy because the whole issue hinged on "how it must be done to meet specifications." There is something very authoritative and commanding about a specification.

Once it is in effect it is recognized by management, supervision, staff and worker as the final word as to how the job shall be done. Here is a powerful tool for peacetime packaging. All the accumulation of requirements, all the preparation, development and testing in the world are of little value unless they are put in effect. The packaging specification is the instrument by which the complex mechanism—Packaging—can be operated and controlled. Let's use this tool! Let's write *complete* packaging specifications! Let's make the most of our opportunity!

Many of you may be wondering how a program of this magnitude can be justified. The answer is by means of cost reduction in packaging. As an example let me return to the Universal MQ Developer package. Preceding the war this product had been packaged in a glass tube. The product, as I have said, consists of two separate powders. A cork separator was placed in the glass tube and a powder filled in each end. The ends of the tube were closed with cork. A full wrap label was then applied to the glass tube and five tubes were packed in a folding carton with paperboard separators. This packing was expensive, the filling and sealing were done by hand. It was inefficient, the cork closures were not always tight and the paperboard separators in the carton did not always prevent breakage. Finally, it was hazardous, glass breaks, and both in filling and packing and when in use by the customer breakage did occur. The advantage of the new package over the old are quite evident. However, specifically this package change resulted in:

Much faster filling and sealing operation.

Reduction in weight of unit package.

Reduction in cost of packaging material.

In addition there are those intangible assets gained such as better protection to product, increased dealer acceptance, greater customer convenience and increased good will.

There have been three basic steps described by means of which we expect to provide better packages for our products.

1. Determination of requirements accomplished by means of the check lists.
2. Development of package which meets requirements accomplished by means of engineering, design and testing.
3. Writing of specifications to insure packages that are made to conform to the standard developed to meet requirements accomplished by means of General Package Specification.

The result will be improved packages, standardization of methods and material and reduction in costs of packaging.

The Function of Quality Control as Applied to Postwar Packaging: D. M. BROWN, *superintendent, refining dept., American Chiclet Co.*

Knowledge and know-how of packaging was increased tremendously during the war simply because it was a *must*. Specifications arrived at provided for a much greater degree of protection than would be provided during peace time for

[†] For full details, see the January 1946, issue of MODERN PACKAGING.

obvious reasons. The more severe specifications and the acute need for proper packaging brought to the fore the critical need for adequate quality control. During peace time, packaging requirements will not be required to be as severe as in wartime for obvious reasons, but it should not follow that the importance of adequate quality control of packaging should be de-emphasized.

Quality control is the art of insuring the maintenance of uniformity of product to agreed-upon standards. As applied to packaging it involves maintenance of uniformity of the material, the wrapping or sealing, and the life of the material.

Our wartime experience warrants the conclusion that a wide variety of new packaging materials will be available for peacetime operations. Some of these new materials are bound to go through growing pains. Faults that no one suspects have cropped up in the past, and surely will in the future. Situations such as this make it desirable, and I daresay, necessary that the function of quality control in packaging be properly understood and utilized.

Sound quality control will encompass the following: (1) packaging requirements; (2) pre-testing control; (3) production testing and control; (4) post-testing and control.

Each of the above phases of a proper quality control are inter-related and of equal importance. Unless each is properly weighed, considered and applied, adequate Quality Control will not be obtained.

The function of packaging requirements is obviously to find out what kind of packaging will be needed. For example, does the package need a high degree of protection against moisture-vapor transfer or is it affected by light or other factors? Fundamentally, a sensible survey must be made which will show the following:

- a. Where the product is sold? Is it wide-spread throughout the country, or is the bulk of its sale in one particular area? What are the climatic conditions in these areas?
- b. How does the product sell? Is it a quick turn-over product or one where a high percentage will be on retailers' shelves for let us say three months? Are sales seasonable with periods where turn-over is rapid, and others where sales are low, and turn-over slow?

The remaining factors that must be known involve:

- a. The study of the product to be packaged. What are its inherent qualities? Is it hygroscopic? Does it "breathe"? Does it have a critical moisture content which must be maintained within close limits? Is it affected by light? Do these conditions change with age?

It is then time to consider costs, machine qualities, availability, etc., which are also of extreme importance in the selection of a packaging material.

Assuming that the material has now been selected, we proceed with adequate pre-testing and control. In this connection, it is first necessary to determine the variations of the packaging material. Are the characteristics of one lot different from the next, and if so, how much? Are these variations within the same lot? Are these differences severe enough to reflect severe changes to the functional usability of the packaging material? This invariably leads to setting up a standard series of characteristics which are the minimum requirements for the material, and which are incorporated as specification into orders and contracts and must be met by the supplier.

The test frequency which will be required to insure uni-

formity must be determined. This requires considerable testing of samples from portions of several production lots. Since material testing costs money, it is essential that the procedure be set up to provide for the minimum amount of testing which will insure the desired control. I must stress at this point, the importance of testing your material promptly upon receipt and not waiting until it is needed for production. The purpose herein is obvious that it is just good business sense to maintain an adequate supply of tested material so that there will be a minimum of interferences with production from this source. It also enables the taking of corrective measures at an earlier moment, which in itself may reflect substantial savings due to elimination and reduction of waste.

The best material in the world is ineffective if it isn't properly used. A metal can is no good if it has a hole in it. A cellophane bag is only as good as the seal. A protect wrapping that is torn, scuffed or otherwise damaged so that its protection is impaired, certainly isn't good packaging. To control this, it is necessary to set up adequate Production Testing and Control. The first thing is to agree upon standards—what standards are we shooting for, for example, do we want an air-tight package or do we only want one that is tack sealed—is appearance and attractiveness of prime consideration because its appearance is of big help in its sale to the consumer, or is it a material going to another producer for additional handling, wherein appearance of the wrapping is less a factor?

The best way that I have found to set up standards is to look at a tremendous amount of packages, culling and sorting until you arrive at a proper limit. These limits should then be prepared in the form of physical standards to be used by the inspection staff, and to be in view of the various machine operators and handlers. People want to know to what standards they have to work. The best way of telling them this is to show them.

A study of the wrapping machinery used will indicate pretty readily its consistency. If the machines are such that they get out of whack quickly, you obviously have to inspect more frequently. If they are machines that once set, there is very little chance of a change, less frequent inspections are indicated. But regardless of whether many or few tests per working day are taken, the results of each inspection should be recorded. The actual taking of a record forces the inspectors to refer to their standards and fixes on them a feeling of responsibility for the accuracy of their inspection. There is nothing worse than to get misleading information—to be told that everything is all right, and to find one day that there has been a definite downward trend in the quality of packaging that no one was aware of until the goods reached the ultimate consumer.

From time to time there are bound to be periods when your packaging will fall below the agreed upon standards. Consequently, a control procedure must be established as to what measures are to be taken when such conditions occur. If the defect is so bad that the merchandise is not salable, obviously the machine must be shut down until it is corrected. If it is border line, the production machine may continue to be run while steps are taken to correct the condition. If it is a temporary condition, one may resort to setting the materials to one side for special disposition. Obviously, the control procedure agreed upon has to fit the specific conditions involved. A common sense analysis of the results will show how many samples from each lot are required to insure that the variations are measured.

It is always sensible to establish a file of production samples.

A few representative packages taken each production day, and retained in suitable bins will give a backlog of material for intelligent examination. It is common practice and a good one to examine periodically these samples after say 1, 2, 3, etc., months' storage to determine what changes have taken place. This factor leads to the fourth and last function of quality control, namely post-testing and control.

Post-testing is primarily a check to be sure that all previous testing has included all the factors that should have been considered. It simply follows the old axiom, "the proof of the pudding is in the eating." First among post-testing factors is accurate reports from salesmen as to the condition of the product. The facts are the important thing, not the opinions. The best salesman report is one that is about 90% facts and 10% opinion with the latter contained in one small paragraph hidden in the bottom of the report.

A second factor is products complaints. The quality control department must be required to handle every complaint on the product that is received by the company. Every complaint should be thoroughly investigated no matter how foolish it may appear to be. A thorough investigation will preclude the possibility that some important point may be overlooked. It has been my experience that the majority of complaints are either not justified or are isolated instances which are bound to occur in spite of all the precautions that are set up. Nevertheless, complaints can be utilized to furnish a very sound picture of how good a packaging job is being done, and incidentally, how good a product you are making.

Lastly, it is sensible to have salesmen periodically return packages picked up at random from the trade, or send a qualified observer out to check the condition of the product at its point of ultimate consumption. This is simply to confirm what has been reported and to insure that your analysis of the packaging requirements was correct, that your pre-testing and production testing are adequate. It enables the producer to constantly revise and improve his standards and in this manner gradually improve the quality of his product.

Quality control never stands still—it either gets better or worse. Let's always strive to improve it.

(Following Mr. Brown's remarks, the session was opened up for questions and answers covering the entire panel.)

QUESTION: What is the trend toward cellophane-wrapped boxes?

TOM MILLER, *vice-president in charge of sales, Package Machinery Co.*: The trend is strongly in this direction, but additional machines and cellophane to do the job cannot be obtained.

QUESTION: Will Mr. L. F. Borchardt of General Mills tell us of that company's production study on shelf life of cereal packages?

MR. BORCHARDT: Results of the study have been published in *MODERN PACKAGING* and in *Cereal Chemistry*. Generally, there were two phases to the study: (1) Market tests, in which packages were picked up and analyzed in the laboratory for moisture. We wanted assurance of protection against moisture content during shelf life. (2) The moisture content during shelf life was predicted from determinations made in the laboratory. We were able to show that the laboratory results could be made to approximate very closely the results found by actual field tests.

QUESTION: Are statistical methods used in the quality control described by Mr. Brown?

ANSWER: No. More and more is heard about statistical methods, and while we have thought and read a great deal

about them, we have not adopted them. In the past we have just used the "rule of thumb." We won't adopt the statistical method until we have thoroughly compared it with our present method and find that it is equally as good or better.

QUESTION: Mr. Brown, is your testing by sampling or spot checking?

ANSWER: That depends upon the type of material. In gum wrappers, we sample five lots out of a shipment of 1,000,000 wrappers. If a material has vagaries, of course, our sampling is different. When cellophane first came on the market and we wanted to use it, we first used a non-moisture-proof type for distribution to a limited area. We changed to a moistureproof type when we found that the non-moisture-proof cellophane had complaints of wrinkling. The moisture-proof type then was first distributed to a limited area. In the initial use, we had to test every jumbo roll of material, and we selected the better material for distribution to high-humidity areas. This involved a lot of testing, but only for a short time. We soon got our suppliers to meet our standards.

QUESTION: Are inspectors answerable to the Production or the Quality Control Department?

ANSWER: They answer to the Quality Control Department, and Quality Control is answerable to top management. This places the quality control department and the production department on an equal rank, and neither is influenced by the other.

MR. STEVENSON: I have heard a great many production men speak of their difficulties, and I contend that inspection is not a production man's problem. The manufacturer, not the buyer, should have to do with control or inspection.

For example, when a person buys an automobile, the machine is delivered in perfect condition, ready for use, and guaranteed by the supplier insofar as tires and other mechanical parts are concerned. With production equipment, the reverse is true; when equipment is bought, a service man comes to the plant to set it up and has to stay until it is placed in operating condition—often weeks. In the case of the automobile, the expense of control or inspection is assumed by the supplier; where production equipment is concerned, the purchaser assumes this obligation. The production department should not be a proving ground for equipment. The buyer should not be the inspector. This results in loss of confidence in the vendor. Of course, on specialty items, the buyer is willing to assume the responsibility, but even in such cases, he should not be required to assume quite so much responsibility as he does.

MR. BROWN: It is not so much a matter of distrusting suppliers. It's simply that we were "burned" once, and we won't be "burned" again.

MR. STEVENSON: Of course, a lot of suppliers are helpful. I'm not finding fault with them. It's simply that the supplier should know what difficulties will be encountered with equipment before they get it to the customer.

QUESTION (*from a machinery supplier*): Have you ever tried to get full information out of a production man? Full information on what is required must be obtained in order for a supplier to be most helpful to the customer.

MR. STEVENSON: The production man, of course, can't foresee everything.

QUESTION: I believe you are thinking more or less of the rigid standards set by the services. For the services, specifications were completely worked out in laboratory and field tests. Mr. Brown is establishing standards to permit his company to draw specifications to meet their needs. In both

equipment and materials, the supplier does not have the benefit of field work, and it is difficult to predict from laboratory tests what will happen in the field. I believe that a solution can only be found through the process of mutual cooperation between supplier and purchaser.

MR. STEVENSON: The customer's suggestions should be given consideration. We are using a lot of antiquated equipment simply because we know the difficulty that we will come across if we install new equipment—even if we could get it now. Many times trouble is encountered with small machines, and this small operation often holds up the entire line.

QUESTION: It is difficult for the machinery manufacturer to anticipate conditions in the user's plant. Often material shipped to the machine manufacturer to test will change in shipment and give a performance quite different from what it will in the user's own plant.

MR. BROWN: I have two suggestions for machinery manufacturers: (1) When you are getting ready to test the material or equipment for the user, invite the user to send up a production man to watch the test. He is often able to catch "bugs" before the machine is brought down to the plant. (2) When we developed a paper substitute for foil, we tested it and it worked well. However, we did not use it exclusively at first. We sent shipments to test areas first—probably for a 3 to 6 months' period. Only on the basis of satisfactory performance in the test area were we permitted to go ahead. "Bugs" do not show up immediately, and an extended test period is the safest procedure—you will not sacrifice as much.

TUESDAY AFTERNOON

Package Planning—a panel session.

Chairman: CHRISTOPHER W. BROWNE, *editor-in-chief*, MODERN PACKAGING. Panel members: DR. E. C. MERRILL, *director of research, United-Rexall Drug Co.*; H. B. CUNNINGHAM, *vice-president, National Biscuit Co.*; E. W. LOVE, *production manager, The Bristol-Myers Co.*; S. L. MAYHAM, *executive vice-president, The Toilet Goods Assn.*; HOWARD F. LOCHRIE, *advertising and sales promotion manager, Birds-Eye Snider*; DR. VERGIL D. REED, *associate director of research, J. Walter Thompson*; LESTER BEALL and EGMONT ARENS, *design consultants*.

MR. BROWNE: Package development and good packaging is the outcome of teamwork. All departments—product research, purchasing, production, legal, advertising, market research and design—must work cooperatively. Today we have representatives of each of these departments, both in the audience (as a poll indicated) and on the panel. We will place before the panel a hypothetical case and follow it through from its inception to its conclusion.

Very often the request for a new product or package originates with the salesman. We will assume that salesmen have requested that the company introduce a new deodorant. As the first step, we will ask the sales department: How do you decide whether to do anything about the requests of salesmen?

MR. LOCHRIE: It would have to be proved to me that we need it to keep in step with our competitors. It would have to be proved that we could really do something with the new product. When I have been satisfied on these points, I would go to management and present the case and ask: "What are you going to do about it?"

MR. BROWNE: Fine. Then management says we must determine scientifically whether or not there is a market for

the deodorant. This brings in the market research department.

DR. REED: A product is not brought on the market just because the salesman thinks it can sell. Salesmen's information is sometimes superficial and misleading. The research department will find out what the people want, what is good and bad with those deodorants now on the market. The research man may find one thing that is a common shortcoming in all deodorants now on the market. That, of course, would be the one thing to get into the new product and play up.

MR. BROWNE: Can such a product be developed? How do you determine producibility within the requirements set by market research as public demand?

DR. MERRILL: The product research department would want to be in on the picture from the start. The product research department would want the sales as well as the marketing research viewpoint before it would crystallize on the type of product that could be developed. The product can be systematically arrived at by preparation of samples and in conference with the sales department. We would then decide on the physical condition of the product—it is important that we know everything we can obtain first-hand about the physical and chemical characteristics of the product in considering packaging required. Then we determine the type of package and the corollary materials used in packaging. To save time, we must have an understanding of what the objective is in the form of the finished product and to correlate the effect of all elements—heat, light, etc.—Everything that is important to the finished dress of the package. We present our recommendations to the sales department.

MR. BROWNE: The purchasing department must now determine the availability of materials and equipment to put out the product. How does the purchasing department go about this?

MR. CUNNINGHAM: You want a new product, but what kind of container?

MR. LOCHRIE: Something modern and up-to-date that will be better than our competitors. Assume it to be plastic.

MR. CUNNINGHAM: You will want the plastic quickly. Plastic is not in short supply and will be readily available. If the product is to sell for 50¢, let's say the container should cost 5¢. That can be accomplished. Then we will need a corrugated or patent-coated outside container. Paperboard is tight, but can be obtained. If the container itself is of a new shape, we will have to have new molds made by the plastic people and accepted by the sales and research departments.

MR. BROWNE: What does the production department say about how it determines the workability of these packages in the existing equipment and how it recommends new equipment that is needed, or changes in personnel which may be required?

MR. LOVE: We have to know about the number of sizes, and whether or not the package is plastic, a collapsible tube, glass jar or bottle. We have to have an idea of the quantity you will require, so we can determine whether new equipment will be needed—hoping that it won't be because deliveries are bad. We will want to know the quantity from the standpoint of labor required. We will have to know whether distribution will be national or local. We will want to know from the research department what types of metals will be suitable for packaging machinery and manufacturing equipment. If stainless steel or a glass line is needed, we will have

to find something. Also, we will want to know what is the ultimate pack—the quantities in a case. We would want to sit in on the design discussions so we can get something we can run and, if possible, close in size to the package for our present products.

MR. BROWNE: The sales and production departments by now have learned that they must come up with definite ideas. Are there any concrete suggestions by now on the kind of package from the standpoint of advertising?

MR. LOCHRIE: We must know about the competitor's product. The advertising department goes to production and research to find out how they advertise, and the kind of package they have. We ascertain the past history of good ones and of the failures. Based on that, we will come up with recommendations that we believe, advertising-wise, would give the company something sensational and practical, modern, up-to-date, something that will meet production's requirements and give us an opportunity to do a promotional job.

MR. REED: What about the consumer?

MR. LOCHRIE: We assume that the sales force surveyed distributors and asked what is acceptable.

MR. REED: Sometimes the distributors do not reflect consumer wants.

MR. LOCHRIE: We depend upon the research department for that.

MR. BROWNE: Now, what do the designers have to say?

MR. ARENS: What is the deodorant to be called? I assume it must have a small three-letter name. We must know whether the trademark to be developed is one which will tie in with a line of products already on the market. Where is it going to be sold—house to house, drugstore, over the counter, through the old fashioned method or the new self-service store? Aside from production, I would want to know who I would be dealing with in the company—who makes the final decisions—does he have color prejudices or preferences? If he has no preferences, I would tell him the color preferences for that product.

MR. LOCHRIE: Distribution is through wholesalers, drug distributors and regular channels—drugstores, or where trademarked medicinal products are sold.

MR. BEALL: In the preliminary research it was brought out that there was possibly one point that the consumer objected to in competitive products that we can overcome and use as a selling argument. In that survey was there some reaction taken concerning the package container-wise? What is the attitude on selling copy and descriptive material of competitive products? Is the advertising going to sell the package, or is the package going to take on the job of selling the advertising?

MR. BROWNE: Now we must consider the various legal aspects.

MR. MAYHAM: From the legal point we must ask, "Can we do this?" The product comes under the Food, Drug and Cosmetic Act. The use of an anti-perspirant makes it a drug. Consequently, the designer and the production department must do certain things. You have to have the name and address of the manufacturer, or the distributor if the manufacturer makes the product for a specific distributor. This has to be not on the back, bottom or side, but on the front, where also must appear the product name or trademark and the net contents. The packages of all drugs must contain the name of any active ingredients in the product that might cause damage to fabric or person. I would suggest that some warning statement appear touching on how to use

the product to avoid destroying clothes. This information must be put on the jar or bottle and also on the carton—the labeling has to be in both places so that the buyer may see the information on the carton which she buys and also on the bottle, when she removes the carton and places the bottle on a shelf for use. The Federal authorities do not like misleading packages. There are two kinds of misleading packages: (1) Sometimes containers are half empty. They must be full. (2) Sometimes an odd-shaped bottle is placed in a square carton, which tends to make the buyer think she is getting more than she is. If an odd-shape bottle is used in a carton, there must be placed a facsimile of the bottle on the outside of the carton.

MR. BROWNE: Now that we have finished our little "skit" and the importance of teamwork has been shown, I have a few questions which will be put to the various members of the panel. Questions from the audience will also be welcomed.

QUESTION: Do you think that the long-pull prospects ahead—as to general conditions—warrant undertaking an ambitious program of product development with appropriately ambitious packaging?

DR. REED: We must consider that there will be a lot of package development for new products, for at least two reasons: (1) New products will demand new packages. (2) Industry has been restricted on packages and has had to design according to regulation. This has taught the designer and the manufacturer how to get more functional benefit from a package and, at the same time, good display value. We have to be prepared for a resurgence of the consumer movement. The C. I. O. can tell you about this. You have to keep in mind the avoiding of waste or reflecting waste in distribution. Definitely, big developments may be expected. You may expect 40% more in physical volume than before.

QUESTION: As a purchasing director, Mr. Cunningham, you have to keep an eye on conditions generally. Do you think the long pull which we know is ahead warrants optimism or pessimism?

MR. CUNNINGHAM: Tremendous optimism concerning expansion.

MR. BROWNE: The procurement man's outlook is important because it is his business to watch markets worldwide.

QUESTION: With regard to packaging design, suppose the old package features a well-known trademark; in the event of a package change (in design), how far is it safe to go in changing that feature?

MR. LOCHRIE: If you have a line, you should be careful in changing a trademark. If you change it, the change should be applied to the whole line—a one-time job. You might make some gradual changes, but you should be very careful about it. If you have a single product, and if the change is desirable, do it—go whole hog, and be prepared to back it up with advertising and promotion.

QUESTION: As a procurement officer, would you approve of exceeding the normal costs of packaging in order to guarantee the success of a new product, taking a chance on later volume sales to make up the loss?

MR. CUNNINGHAM: I would have to first know the market potential. I would obtain the viewpoint of production and sales and advertising concerning the immediate and long-range aspects before approving it. It might later prove to be a loss leader. Some products carry a long profit—you might engage in such an experiment on such products. In

our business, I don't think we would knowingly put such a product out with the hope that the added cost would be overcome—maybe.

QUESTION (MR. WILLARD F. DEVENEAU, *National Folding Box Co.*): If the purchasing department would not exceed its budget for such a purpose, how would management feel in the introductory period about dipping into the advertising budget to cover the excessive cost as promotion rather than packaging?

MR. LOCHRIE: It's a matter of teamwork. From the standpoint of the sales department, we would have to justify a lot of things by more research before making a strong recommendation. From the advertising standpoint, we would have to be convinced that the extra expense was justified and would have to determine what it would do to the rest of the line. Definitely, we would have to be convinced.

QUESTION: Have you ever seen it done—the increased cost taken out of advertising? Do you happen to know of any case history?

MR. LOCHRIE: Yes, but not in our company. A separate budget, deductible from total advertising, might possibly be set up.

QUESTION: Which is the better plan—to redesign gradually, almost imperceptibly, or to make drastic package changes suddenly?

MR. BEALL: Changes should be clear-cut. There may be conditions to warrant gradual change, but gradual changes never turn out to be a plan and usually end up with a loss of the virtues of the package you started out with. You miss the psychological value that the sales and advertising departments might use to promote a new design and the enthusiasm that can be built up around a new package. However, to redesign just for the sake of redesigning is never satisfactory. Sometimes the new is not as sound as the old. I disapprove of redesigning just for the sake of change.

QUESTION: When, in 1939, the Food and Drug Act passed, did that afford opportunity for intelligent redesign of packages? Did food and drug producers take advantage of that opportunity?

MR. MAYHAM: The Act forced it upon you to do something about it. No cosmetic could continue in its package and remain within the law when it was passed. A great many companies took advantage of the law to improve their packages slightly. But many missed the boat in their hurry to get packages complying with the law and overlooked their opportunity to do a good packaging job.

QUESTION: In package redesigning, does that afford advertising and promotion an opportunity to do something to arouse the public and the salesmen?

MR. LOCHRIE: Yes. Do not redesign just because you want a new package, however. A change should be made only for some intelligent reason. Every opportunity in the world is afforded advertising and promotion through a new package.

QUESTION: What are the points which must be considered when deciding whether to adopt a family design for a group of products put out by a manufacturer as contrasted with an individual design for each product?

MR. ARENS: It's a matter of the individual products under consideration. If an ethical drug house decided to put out a popular line of drugs, such as vitamins, they might put them out under a new brand name, or they might have two or three company names so that they could differentiate between the ethical and popular brands. They might even want to put them out under a new tradename.

QUESTION: Do you consider it advisable, in the interests of economy, to modify a product to meet the cost of a more expensive package; or should the selling price be raised to maintain the original quality and still provide an adequate package?

DR. MERRILL: I wouldn't want to change the form of the product. Other factors ought to be studied to see where the economy could be effected rather than in the formulation.

QUESTION: As a production man, what is your attitude toward permanent standardization of package sizes—bottles, jars, metal caps?

MR. LOVE: That answer is pretty obvious from my standpoint. I think the more standardization we have the easier it is to change over from one product to another. In a company making 100 different items, it really is a production man's headache to set up to handle all those various sizes. If the number could be cut down to a minimum it would help greatly.

QUESTION: What is the attitude of the sales and advertising departments toward the question of standardization? Is the sales value of a distinctive package which requires a special mold or a special shape sufficient to offset the economies of standardized shapes and sizes?

MR. LOCHRIE: That would depend on the product. If I were in the toilet goods industry, I would imagine that various molds and types were desirable. But it seems to me it would be preferable to use for ketchup a ketchup bottle that women would recognize as such in preference to a fancy bottle or jug. Much can be done by the use of a standard bottle with a distinctive label.

QUESTION: Does standardization of package shape and size cripple the designer? What can be done to insure individuality despite standardization?

MR. ARENS: Differentiation can be achieved despite standardization. It depends on the designer to get around standardization by the judicious use of color, for instance, to offset the monotony. The way to do that is to get a good designer.

QUESTION (MR. HOLTZ, *Eastman Kodak*): I'd like to go back a bit and ask Dr. Reed for his comment on consumer acceptance of design.

DR. REED: The common practice is to take three or four designs and then ask about a thousand people to number them in the order of their choice—1, 2, 3 and 4, and then take the one that gets the highest vote. In my opinion, that procedure is lousy. I would prefer making a package research test—put some people who know package design in several retail stores and have them watch what the consumer does with that package. Then, pick the one with the greatest volume. Don't depend on what people think looks best—pick the package that gets the most sales attention in the store. I wonder if the sales manager is in a position to know what happens to the product after its initial sale. What about its re-purchase? I have in mind a particular product whose sales spiraled up after its introduction, but its re-purchase volume showed a steady decline.

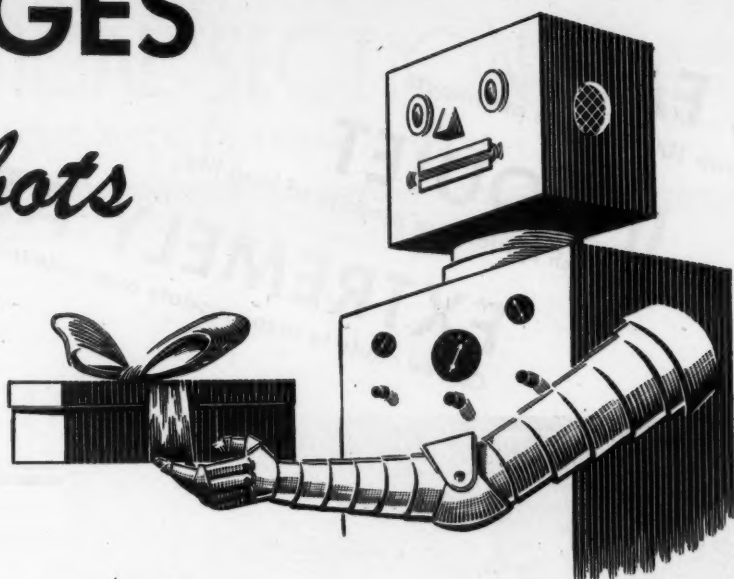
MR. BROWNE: That might be a product problem. We cannot saddle on the package any product deficiency.

MR. ARENS: I think that what Dr. Reed has said is tremendously important. There has been entirely too much emphasis placed on what people like in the way of package designs. It is important to know what people do under actual buying conditions.

MR. BROWNE: You believe, then, that one of the functions of the package is to sell the goods. It seems to me that we have demonstrated that packaging is a teamwork proposition.

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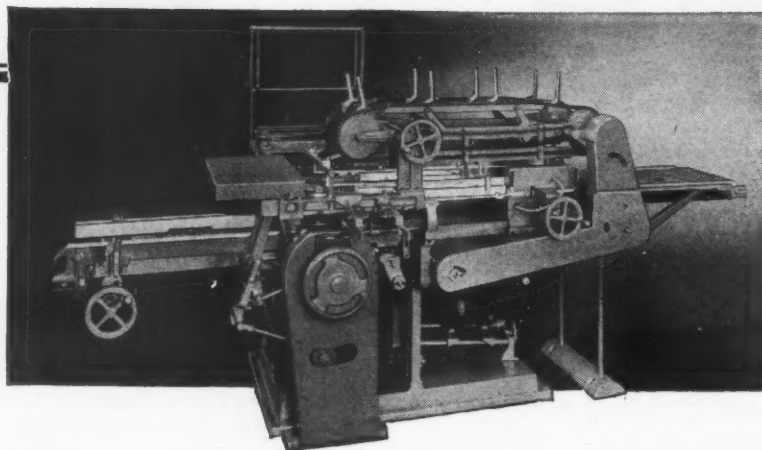
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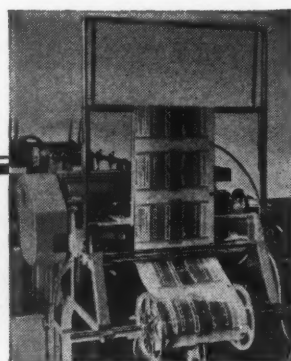
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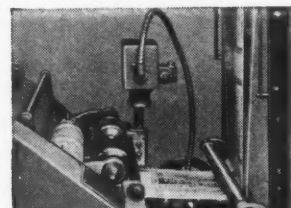
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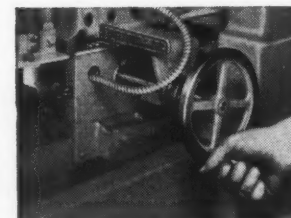
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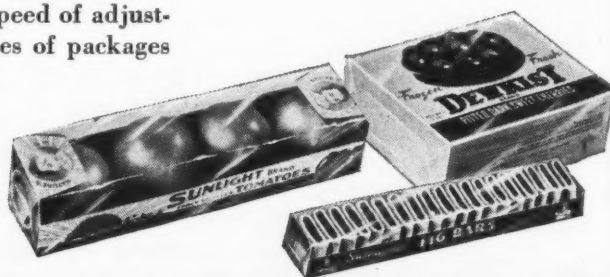
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TECHNICAL SECTION

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• MACHINERY
• PRODUCTION
• TESTING

Flavor retention with organic packaging materials

by E. C. Crocker*

Each of the many types of food containers has inherent or built-in characteristics which make it especially suitable for packaging and protecting certain foods. Normal developments stimulated by the demands of several years of war have produced many varieties of containers made of materials which may be classified collectively as organic. These include paper in its many forms, transparent cellulose-derivative films, rubber-derivative films and plastic films.

These organic materials can be transparent, light, flexible and cheap, and they are usually plentiful even when other kinds of packages may be temporarily unavailable. They are sometimes the best type of material for retaining the appearance and flavor of particular foods. It is this last aspect of organic packaging materials that this article discusses.

Without giving particular study to the matter, one would think that the tighter a container can be made against all "unfavorable" influences such as light, air, moisture and grease, the better it should be for holding any and all types of food. This does not always prove to be the case, however. Instances abound in which some particular type of permeability is more conducive to retention of good flavor than is complete and general tightness.

An important portion of the flavor of foods resides in the "aroma" or volatile part, which is not only subject to loss by evaporation but is sensitive as well to many kinds of chemical reactions through which it may change its character or be completely lost. Although loss by volatility is sometimes of outstanding importance and must be prevented, loss by hydrolysis or oxidation is far more frequent and more serious. Therefore, the membrane of the container must be chosen chiefly for its ability to suppress unfavorable chemical reactions even if there is not complete tightness against the passage of aroma. A few instances will illustrate this point.

Fatty rancidity

Fatty foods tend to change unfavorably in flavor when the fat oxidizes. The fats first absorb oxygen and slowly combine with it. Later this "moloxide" undergoes a series of molecular rearrangements and splittings. The first combination is generally a peroxide, which is chemically unstable and leads to splitting to produce bad-smelling volatile ingredients, frequently including heptylic aldehyde. Some of these products are susceptible to further oxidation. As oxidation de-

velops, a loss of desirable flavor is always first observed; a "flat" period then follows when all flavor is low, and finally a definite "rancid" flavor builds up.

The oxidation of fats may be delayed beyond the normal shelf life of the goods by such direct measures as exclusion of oxygen or the introduction of an anti-oxidant at the surface of the fat, or by certain indirect means, such as that cited below, which is especially applicable to cereal products.

It has been observed that many cereal products, including corn flakes, rice and wheat flour, develop rancidity very early if they are extremely dry—say under 2% moisture—but may remain "sweet" and free from rancidity, even for years, if kept very slightly moist, as in the 5 to 10% moisture range. This is short of that degree of moistness that makes cereals tough, stale or limp, and is far below the point where mold may develop. A possible explanation of the value of this small content of moisture in preventing oxidation is that it causes the fat present to coalesce into relatively compact masses which expose but little surface to the air, whereas in the absence of moisture the fat spreads out to expose a maximum surface. Reduction of the surface area of any fat present proves to be a potent means for retarding oxidation, and a properly maintained amount of moisture, too small to injure the properties of cereal products, suffices to keep the fat area small and the flavor good.

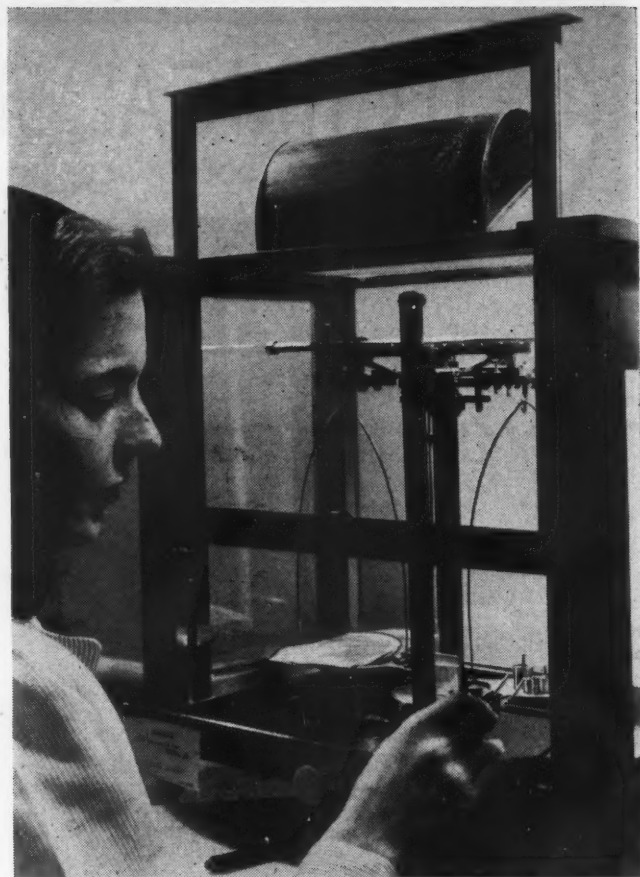
Waxed paper wrapping is an effective means for maintaining cereals in the useful 5 to 10% moisture content range. It is also sufficiently permeable for the escape of any small amount of oxidation products that may form within the package because of imperfect moisture control. Waxed paper is, therefore, an example of a moisture-tight barrier that is sufficiently permeable to odors to allow a package to "air

Literature on the effect of packaging materials on flavor and aroma of food products has been very sparse. This article by one of the outstanding authorities on odor and flavor is a notable contribution. Mr. Crocker not only discusses the suitability of organic materials, from this standpoint, for various products, but he describes a simple test procedure.

* Of Arthur D. Little, Inc., Cambridge, Mass.



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1—First step in testing permeability of a packaging membrane to volatile flavors is to apply a chemical of the same volatility to an absorbent pad and enclose pad in a package of material to be tested.

2—Test unit is then weighed at intervals to determine loss in weight by volatilization through membrane.

out." Some other membranes, especially those of the rubber type such as Pliofilm, act similarly. Containers of these types are far superior for cereal products to completely tight containers, because of their ability to lose bad odors as they form.

Cake mixes, which contain much shortening, present a different problem in moisture retention for they must be kept in greaseproof packages. Since most glassines and cellulose sheetings, while greaseproof, are not moisture tight, some expedient other than the nature of the package has to be resorted to for maintaining the protective degree of moisture within the product. This objective was achieved by Fine & Olson, in 1928, by incorporating a small quantity of a hygroscopic agent in the food. Their patent specified the use of 0.25 to 0.50% of glycerine, but other moisture-holding agents such as invert sugar, honey or molasses should also serve this purpose.

Various anti-oxidants have been used with the materials of the package to protect fatty materials stored therein. A patent taken out recently by H. S. Mitchell, U. S. P. 2,344,470, assigned to the Industrial Patent Corp. of Chicago, deals with the use of phosphoric acid for treatment of paper for packaging. Oat flour has been dusted on the inside of packages for this same purpose, though it perhaps operates by a different mechanism. These are interesting departures from the incorporation of anti-oxidants, such as "N.D.G.A.," in the fat present in the contents of the package. It seems reasonable that with proper attention to greaseproofness, moisture content and perhaps surface protection of the pack-

age, some very fatty articles such as nut meats or powdered mustard may be kept in inexpensive paper containers.

Preservatives and anti-molds

A partially permeable package can be utilized for the temporary gaseous treatment of foods to provide long-lasting protection against the organisms of bacterial, insect and fungal spoilage. Several gaseous substances, including ethylene oxide and propylene oxide, which are splendid sterilizing agents, active against nearly all kinds of organisms of spoilage, work well in conjunction with partially permeable packages.

United States Patent 2,370,768 was granted for "fungicidal fumigants which serve to kill microorganisms such as bacteria, yeasts and molds present on or in the commodity" in a slightly permeable but "non-breathing moistureproof container" such as Pliofilm or moistureproof cellophane. Examples given of the commodities to be protected include dried fruits, such as prunes and dates. This form of fumigation is claimed to have been found effective also for protecting fresh meats, various types of sausages, vegetables, fresh fruits and berries. The sterilizing agent, added as a frozen "snow," is said to remain as a gas in the container long enough to do a thorough job of sterilizing and then gradually diffuse, so that it is not present when the consumer receives the articles.

Transparent packages

The advantages of the highly transparent package may,

of course, be safely capitalized upon for all such quick-moving foodstuffs as bakery goods, but some care must be exercised lest light injure the flavor of potato chips and other fatty food products that are to be kept on the shelves for more than a few days.

Sunlight can be damaging rapidly, even diffused light acting over a period of days can cause fatty rancidity. Colored celluloses have been produced which lessen the rancidifying action of light and yet preserve some transparency.

Aroma tightness

In the case of the cigarette, both aroma and moisture are precious and should be conserved. Moistureproof cellulose or metal foil best provides this double protection. For spices and freshly ground coffee, which have strong and penetrating aromas but are relatively indifferent to moisture changes, a casein coating or an aroma-tight barrier of glassine is useful.

Butter and margarine need greaseproof and reasonably aroma-tight wrappings to contain the fat and hold the aroma and to prevent the picking up of other odors from the atmosphere in which they are stored. Moist parchment paper wrappers do all these things well.

Testing for aroma- and moisture tightness

Many chemical substances may be used for test purposes to determine the aroma-tightness of any given package, including both its walls and its seal. These chemicals are mostly liquid odoriferous substances that can be held absorbed in filter paper or blotting paper in the otherwise empty package which has been closed in the normal manner. A noticeable odor coming through the package or its seal is evidence of lack of aroma-tightness. If no odor is noticed, loss may still occur, and can be tested for by weighing the package from time to time on an analytical balance. For most purposes, the odor of the vapor that penetrates the package is a sufficient indicator.

All the substances in the list of test chemicals given below are of approximately the same degree of volatility, are chemically stable and obtainable from houses supplying chemicals or essential oils. The best procedure is to test two or three

chemical types, preferably those occurring in the aroma of the substance which is to be kept in the package. Aldehyde and hydrocarbon, for example, would be tested if spices were to be kept in the container, etc. Moisture-tightness may be tested in the same manner, by using water as the test material and noting its transfusion through the package by loss of weight.

List of aroma-tightness-testing chemicals, all of medium volatility

<i>Chemical type</i>	<i>Suggested chemical</i>
Alcohol	Cyclohexanol
Ester	Benzyl acetate
Aldehyde	Salicyl aldehyde
Acid	Iso-valeric acid
Amine	m-Toluidine
Phenol	Guaiacol
Hydrocarbon	Naphthalene
Ketone	Menthone
Quinoline	Quinoline

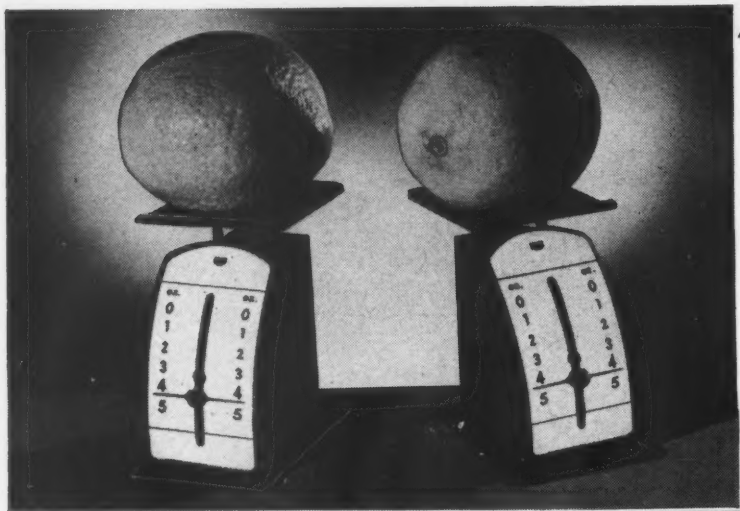
Testing materials for flavor

Those parts of any package that come into contact with moist, greasy or otherwise absorptive foods, including shell eggs, must be free from odors (or tastes) that might contaminate the food. Perhaps the most frequent offender, because it is made from the least-controlled raw materials, is the manila chipboard used in folding boxes of various types. A simple technique of inspection for odors and tastes in packaging materials is given herewith for its general utility. The testing should be done in a room free from noticeable odors, including those of cooking and of smoking. The procedure is as follows:

1. Smell a sheet of the packaging material directly. If it is apparently odorless (to a good nose) try the next test.
2. "Steam the paper with one's breath and immediately sniff for any unpleasant odors that may be released. This is a very effective means for releasing volatile impurities and will locate any appreciable amount of musty, moldy or phenolic odors that may be present due to the use of damp,

3—A waxed paper wrap, applied either inside or outside the rigid container, keeps cereal products at desired moisture content in the 5% to 10% range, to avoid rancidity.



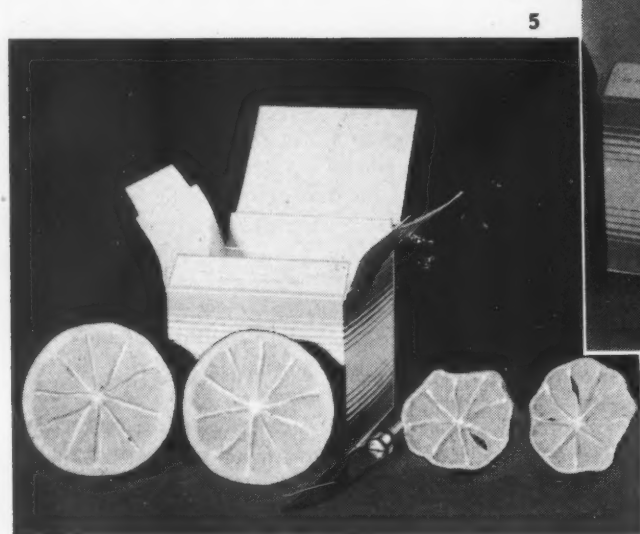


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4, 5, and 6—Two lemons of identical weight at the start were stored for a month in a dry room; one was unprotected and the other packaged in a moistureproof, thermoplastic-coated carton. Packaged lemon showed no loss in weight or appearance; however, the flavor of the packaged lemon had changed noticeably.

6

PHOTOS 4, 5, AND 6, COURTESY DEWEY AND ALMY CHEMICAL CO.



5

poorly stored, or otherwise contaminated material in the manufacture of the paper board.

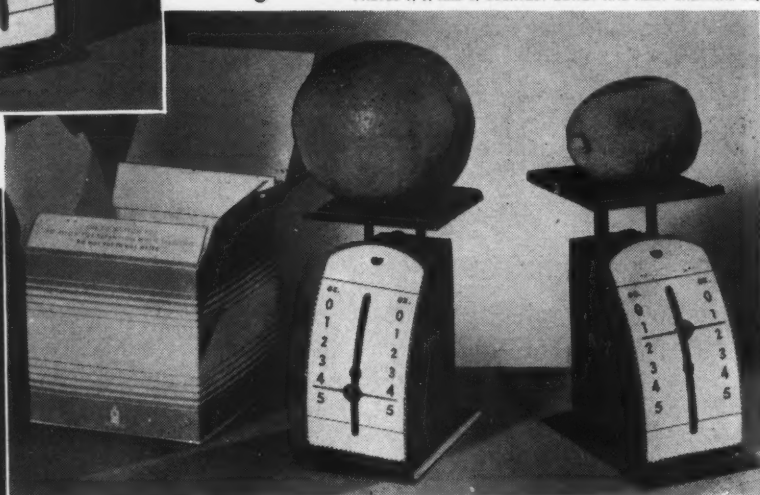
3. If both above tests are negative, chew about a square inch of any of the chewable types of papers. This will detect any taste-producing impurities present and it also will detect odoriferous materials not noted in the previous tests.

If a lot of paper passes all three of the above tests, it may be considered as safe for use in contact with foods. Materials other than paper that pass the first two tests are generally suitable.

Special food packaging problems

Living foods such as tomatoes, spinach and salad greens need to be protected against rapid loss of moisture and yet must "breathe" to some extent by inhaling oxygen and giving off carbon dioxide (or, if exposed to sunlight, the reverse). A few holes punched in otherwise moisture-tight bags are sometimes used to solve this problem. Semi-coated cellophane and cellulose acetate film are also used to provide the right degree of permeability.

Organic containers are well adapted for frozen foods, because they provide a package that does not warm up rapidly in the air and yet one that is flexible enough for the application of pressure and the flow of heat during the freezing operation. Care has to be taken that these packages are tight



against water vapor or otherwise "freezer burn" (local drying out at the surface) may be objectionable. Rubber wraps with bland flavor and the proper thermal characteristics to shrink and fit tightly to the material packaged, make an ideal covering for chickens and various cuts of meat for quick-freezing.

No container can prevent certain changes from occurring within the food itself. Bread, for example, goes stale because of a reversal in the state of the water and starch; the starch-in-water gradually becomes water-in-starch, which is firm and dry.

The work done on this subject by a Dutch experimenter named Katz, in 1912 and 1916, is reported in Volume I of Walton's "Comprehensive Survey of Starch Chemistry" (1928), pp. 100-117. Staling occurs at temperatures below 60° C. down to at least -20° C., even in the absence of loss of moisture.

Dehydrated eggs, milk and vegetables undergo an internal chemical reaction, when dextrose or other invert sugars present react with any free amino acids. This "sugar-protein" reaction, which causes browning of color, loss of solubility and development of caramel-like flavor, can be retarded by keeping the products at low moisture content, preferably in a cool place.

An important advantage of organic packaging materials is the degree to which their characteristics can be modified to fit the requirements of a variety of problems in connection with flavor retention, as well as problems of physical protection and display. The choice of these materials and modification of them must be based, however, on a knowledge of the technical requirements which must be met if a flavorful and well preserved product is to be delivered to the customer in a completely satisfactory state.

Canned for life . . . the product works in its package

Out of a specialized wartime technique, developed to eliminate fire hazards caused by insulation breakdown and excessive arcing in standard electrical controls when operated at the low pressure conditions of high altitude, has emerged a new packaging method for sealing electrical devices in metal containers which afford complete protection against dust, variations in humidity and temperature and other conditions—safeguarding the devices during their entire operating life. The product functions *in* the package.

Known as Stratopax, the sealed containers make it possible for relays, contactors, circuit breakers and other electrical devices to be enclosed in an inert pressurized gas atmosphere. Use of this package is not limited to aircraft or high altitude applications, but may be found desirable in attaining trouble-free operation and greatly extended lifetime service wherever weather conditions, chemical corrosion, fungus, explosives or dust are a factor. The metal container insures protection against tampering, while incorporation of the inert gas filler guarantees freedom from internal corrosion, assures maximum life of contact points and provides for improved heat dissipation capacity.

Development of Stratopax packaging by the Cook Electric Co., Chicago, involved a new concept of the hermetic seal, with new and greatly improved techniques in sealing, inert gas filling and tightness testing playing a primary role in the success of the method. So sensitive is the equipment utilized in testing the seal of units packaged by this method that the leakage of only 0.01 micron cu. ft. (one-billionth of a pound) of inert gas per hour can be detected and accurately measured. Use of this special equipment has made it possible not only to check the seal tightness of each individual unit produced, but also to study and perfect the general methods of sealing used and to check the metals of construction for porosity.

In addition to standard Stratopax units, the Cook company is prepared either to supply services to manufacturers in "stratopackaging" their existing equipment or to supply the complete unit. Before undertaking the packaging of an electrical assembly, the company makes an exhaustive study of the equipment and the conditions under which it is designed to operate. Among the specific points covered in this investigation are the following:

1. An analysis of the electrical, mechanical and physical specifications of the instrument to be packed.
2. Determination of its electrical performance and operational requirements.
3. Mounting requirements, involving duplication of mounting location, space available, bolts and bolt locations, shock and vibration requirements.
4. Cubical space limitations and geometry of the package.
5. Possible advantages of combining several adjacent instruments into a single package.

1—This vital aircraft mechanism, a latching relay, was adapted without change to permanent packaging in metal container at right. Sealed in an inert gas atmosphere, device works in package, at peak efficiency. Connection is made through solder lug terminals at base of container.

Marking what may be the extension of functional packaging into a new field, a Chicago manufacturer has developed a method of gas packing electrical devices in metal containers, where they are permanently protected during use. Thus the function of a package is extended beyond the mere conveyance of product to user to the safeguarding of the product during its entire life, which in this particular case may be many years.

6. Packaging of entire assembly or chassis containing instructions in a single package with appropriate mounting, terminations, test lamps, inspection ports and test circuit terminals.

7. Compensation for internal heat accumulation by means of high thermal conductivity of gases, expansion bellows sections and dissipation by means of radiating flanges.

8. Use of various metals, plating, coating and all known methods of metal joining to prevent package corrosion.

9. Proper physical suspension and mounting of the instruments in the package by means of brackets, straps, bases and fittings.

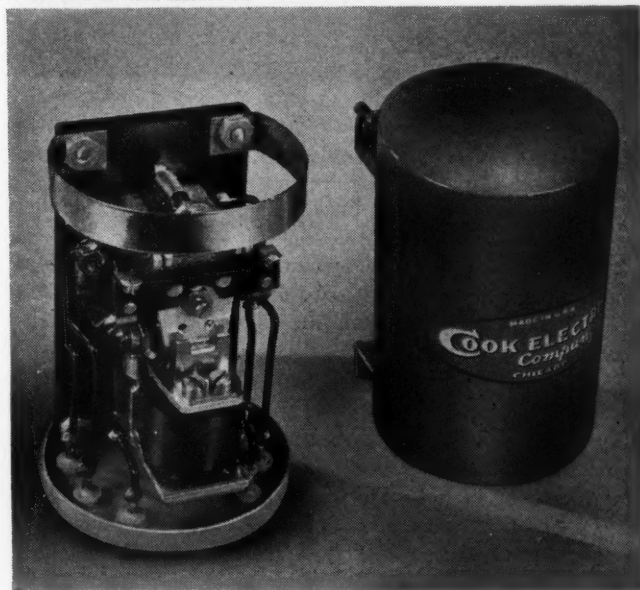
10. Maintenance of minimum weight through removal of discontinued instrument parts, selection of metals and design of package.

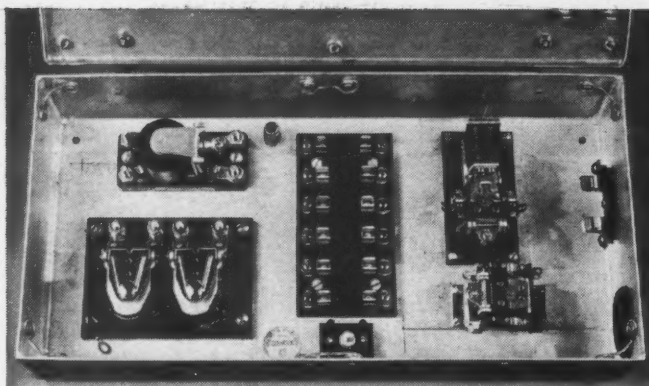
11. Proper interior wiring of instrument to outside terminals and, wherever possible, simplification in terminal treatment by inside wiring of multiple packaged instruments.

12. Maintenance of high insulation standards.

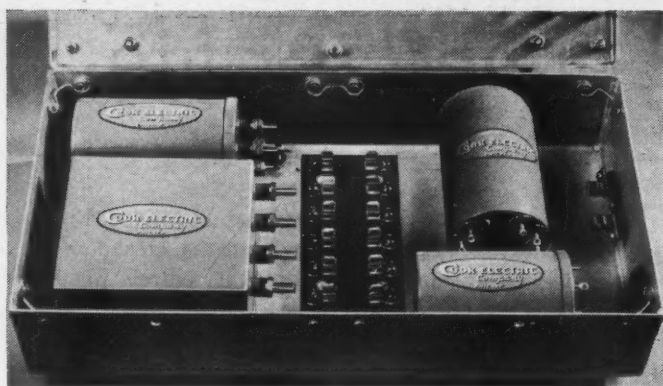
13. Maintenance of high current ratings, as regards termination through use of glass-enclosed solder lug terminals and

PHOTOS COURTESY COOK ELECTRIC CO.





2



3

2 and 3—Before and after pictures show an example of packaging relays and contactors in an aircraft junction box, permitting easy interchangeability of units. Note that trademark shows up to excellent advantage.



4

4—Sometimes only a portion of unit needs permanent packaging. This is a manually operated, cam-actuated switch.

patented compression couplings for high amperage binding post terminals.

14. Effective use of square, round and varied shaped metal cans for package tops. All sizes and shapes can be drawn or fabricated to accommodate all types and sizes of instruments and mountings.

15. Use of bellows to permit manual actuation of switches, reset mechanisms, adjustments, etc.

Various types of steel and terneplate, in gauges ranging from 0.015 to 0.049 in., are used in production of the Stratopax containers, the material and gauge selected depending upon the size of the package, amount of draw necessary and other factors. The geometry of the package and the various methods of seamed joining are very important. In general,

all terminals are brought through walls of the container by means of glass-enclosed solder lug terminals. Where this method proves impracticable, patented compression couplings are employed. These are rendered impervious to water and deterioration in air by the use of a special sealing compound.

The effect of differential pressures on the larger package surfaces must be considered in view of the cold working of the package joints. For example, with 20 p.s.i. internal pressure on the sides of the package at 25,000 ft. altitude, the outside pressure is only 5.4 p.s.i., creating a differential of pressure of 14.6 p.s.i. Assuming the side of the package to measure 3 by 5 in., the total thrust pressure on the side of the package is 219 lbs., which is carried by 16 in. of seam or 13.7 lbs. pressure per linear inch of seam.

By means of ribbed reinforcements, careful determination of the kinds and thicknesses of metals used for packaging and the application of modern metal joining processes to seam closing, such as heliarc and atomic hydrogen welding and controlled atmosphere copper and silver brazing, strong joints are obtained. In Stratopaxing, solder is only used as a final closing on which no stresses are accumulated, since the temperature extremes to which aircraft instruments are subjected (minus 60 degs. F. to 160 degs. F.) will greatly accelerate the crystallization of soft solder and any other plastic closing mediums.

Of special importance in this packaging method is the sequence employed in the use of various brazing, welding and soldering operations. For example, in joining brackets to bases, copper brazing is generally employed, requiring a temperature of 2,100 degs. F. If additional joining is later necessary, silver brazing is used at a temperature ranging from 700 to 1,400 degs. Finally, when covering or sealing off, soft solder is used at a temperature of from 400 to 600 degs.

Extreme care must be taken to remove all traces of moisture, air or other volatile solvents before packages are sealed with a filling of inert gas. To accomplish this operation, the pressure in the package is reduced to a value less than 10^{-5} millimeters of mercury and maintained at this point during an infra-red baking cycle wherein the last traces of absorbed gases and water are removed by molecular acceleration. Following this outgassing cycle, the units are regularly purged several times with a special filling gas, dry Nitron No. 18, before finally filling for packing and sealing to a pressure of 10 lbs. per sq. in. gauge. After all operations have been completed and the package is ready for final finishing and labeling, the unit is placed in a vacuum chamber and subjected to

5—The assembly lines at Cook Electric Co. on which the electrical devices are both assembled and packaged.



a vacuum of 10^{-6} millimeters of mercury—a pressure differential of 25 p.s.i.

Certain definite properties are required of a good filling gas for this type of packaging. These include non-corrosive qualities, high sparking potential or arc suppression, high rate of heat conductivity, permanence (in the sense that it will neither decompose, enter into chemical combination nor be readily absorbed on surfaces), the ability to provide protection against deterioration of contactor points and the property of being readily detectable in leak-testing apparatus. The series of Nithelon gases developed for Stratopax is chiefly a compromise between thermal conductivity and electrical insulation; the higher the former, the lower the latter.

Since relay contact points must be expected to spark during opening, regardless of the normal voltage in the circuit, it is necessary to surround them with an inert gas in which the sparking action will produce the minimum damaging effect. Although the use of a high vacuum for such protection might be argued, the necessity of good heat dissipation within the sealed container makes it impracticable. The Nithelon series was compounded as filling mixtures for Stratopax only after a general consideration of the properties of many other gases and mixtures of gases. Determination of the pressure under which Stratopax will be sealed depends on two factors—adequate gas excess to provide for possible minute gas escape through leakage which may defy even the extremely sensitive test apparatus used, and adequate pressure to provide a good breakdown strength against spark-over.

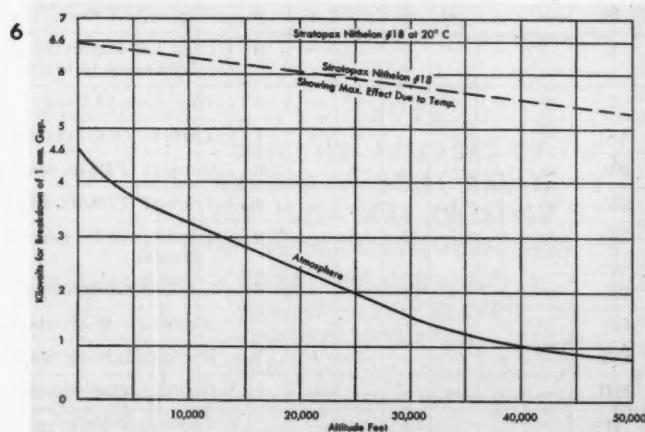
Assuming the worst possible operating conditions with regard to leakage, i.e., where the electrical unit is continuously operated under conditions of very low pressure, and choosing a volume of $\frac{1}{100}$ cu. ft. for the Stratopax and initial leakage not to exceed 0.01 micron cu. ft. per hour, sealing at 2 p.s.i. gauge pressure would provide adequate protection for a unit of this volume for ten years of operation under any conditions of internal pressure. For units of greater volume, a correspondingly longer life cycle would be assured.

The advantage of packaging in preventing arcing and breakdown of electrical devices is graphically indicated in Fig. 6 herewith. This diagram shows what happens as an

electrical device is carried, for instance, by plane to increasing altitudes where the reduced pressures of the atmosphere reduce in direct proportion to its insulating properties. Stratopax, being a sealed unit, is unaffected, except by a small percentage due to temperature change, and continues to operate as if flying at approximately 10,000 ft. above sea level. The dotted line shows the maximum possible decrease of arcing potential due to pressure reduction caused by the drop in atmospheric temperature with increased altitude. This factor would seldom have to be considered as present designs allow for the location of units where protected from severe temperature swings.

While at the outset units to be Stratopaxed will consist largely of items already manufactured, it is pointed out that in the future this method will make possible economies in the manufacture of relays, contactors, meters, etc., by relaxation of specifications. This would include possible discontinuance of plating metal parts, insulation of coil windings, etc., simplification of wiring, elimination of design features intended for appearance and other measures which often would offset the extra cost of packaging to a large degree.

6—Graph below demonstrates the effect of altitude on the voltage breakdown, of Stratopax vs. atmosphere.



Testing case liners . . . 2. Results and conclusions

by H. A. Wolsdorf¹ and E. G. Mullen²

In a previous report³ we described the test procedures and testing equipment used in our evaluation of case liners. This article will deal with the test results and the interpretation of these results.

After completion of the tests, the liners were removed from the boxes and examined for holes and tears. These holes were recorded as pin holes (less than $\frac{1}{16}$ in.), small holes ($\frac{1}{16}$ in. to $\frac{3}{8}$ in.) and large holes (over $\frac{3}{8}$ in.). The number of liners in which there were no holes or tears was recorded.

The chart on the opposite page shows the relative value of all the liners tested. The first column represents the average number of holes and tears in the tropical test irrespective of size. The second column is the same evaluation for the arctic test. Col. 3 shows the "weighted average" tropical and Col. 4 the weighted average arctic. The weighted

average was obtained by allowing a numerical value of 1 for pin holes, 3 for small holes, 7 for large holes and 10 for tears. These numerical ratings seemed to be in line with the actual amounts of water that entered the test boxes. It was noted that where a large hole or tear occurred the contents were damaged by water. It was noted that pin holes could occur that did not allow the entry of water.

Cols. 5 and 6 show the percentage of liners with no holes or tears for the tropical and arctic tests, respectively.

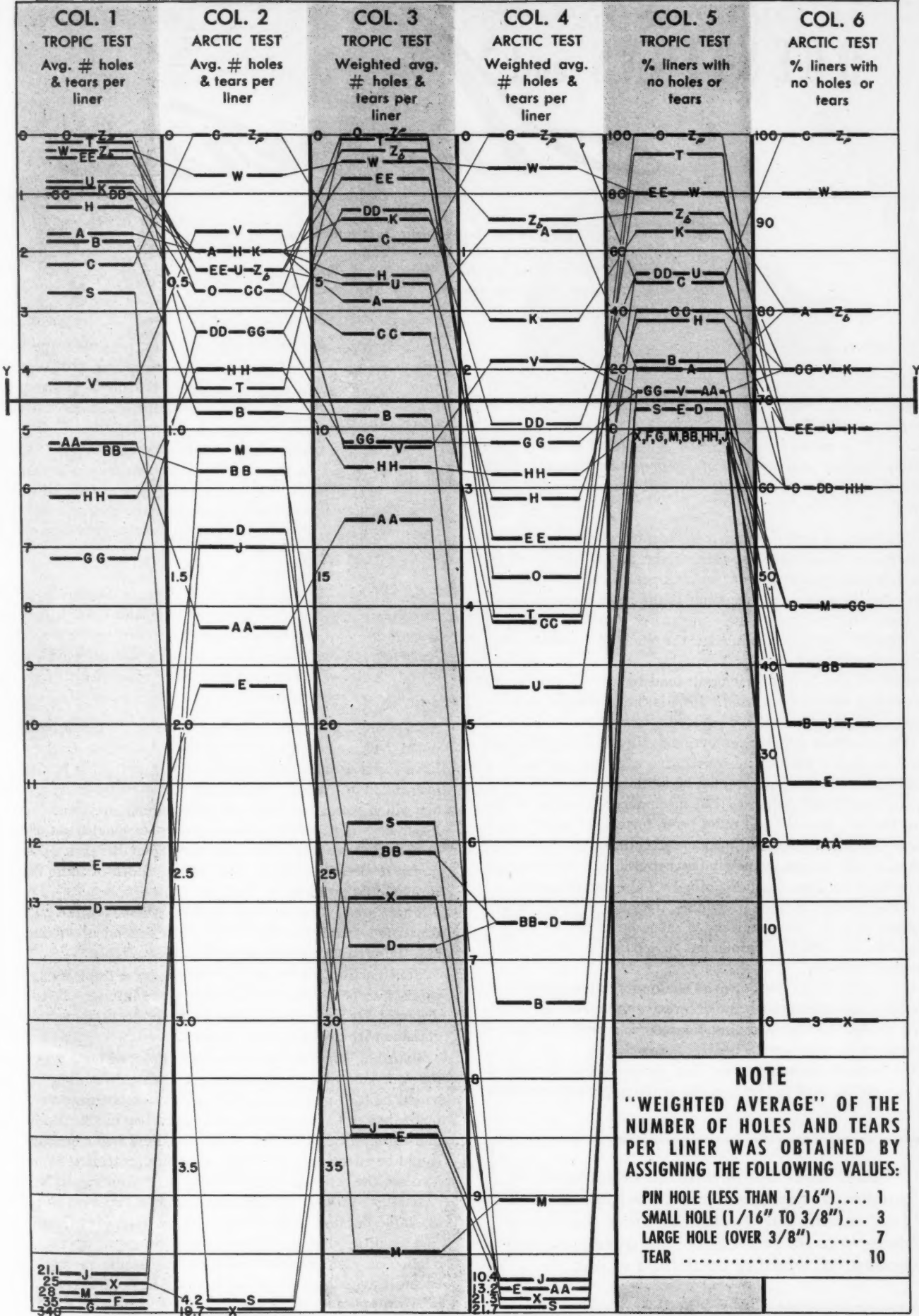
Reports from overseas indicated that certain liners were very satisfactory, others borderline and others unsatisfactory. The test procedure proved to be adequate since the test results could be made to duplicate the actual overseas experience. This was done by drawing a horizontal line Y-Y on the chart. Those liners falling above the line were unquestionably effective. Those falling below were not effective.

There were, however, a few (Continued on page 178)

TABLE I—PERFORMANCE OF CASE LINERS
(Column numbers refer to columns of chart on opposite page)

Code	Performance (Col. No.)						Score	Type of material
	1	2	3	4	5	6		
A	+	+	+	+	+	+	6	Triplex; all sheets 30-lbs., creped diagonally while combining
B	+	—	—	—	+	—	2	Triplex; all sheets 40-lbs., outer sheets creped, infused with asphalt before lamination, center sheet uncreped
C	+	+	+	+	+	+	6	Duplex; reinforced, 45-lb. machine-creped and 75-lb. machine-creped sheets
D	—	—	—	—	—	—	0	Duplex; uncreped, 60-lb. plain and 60-lb. asphalt-infused sheets
E	—	—	—	—	—	—	0	Triplex; 30-lb. machine-creped one side; other sheets plain 30-lb.
F	—	—	—	—	—	—	0	Duplex; reinforced, uncreped, plain 30-lb. sheets
G	—	—	—	—	—	—	0	Duplex; reinforced, uncreped, plain 30-lb. sheets
H	+	+	+	—	+	—	4	Triplex; all sheets 40-lbs., machine creped, serrated
J	—	—	—	—	—	—	0	Duplex; uncreped, 50-lb. plain and 50-lb. asphalt-infused sheets
K	+	+	+	+	+	+	6	Duplex; plain 60-lb. machine-creped, 60-lb. machine-creped infused with asphalt
M	—	—	—	—	—	—	0	Duplex; uncreped, 40-lb. plain 60-lb. wax-resin compound infused
O	+	+	+	—	+	—	4	Triplex; 40-lb. machine-creped, outer sheets wet-strength treated
S	+	—	—	—	—	—	1	Duplex; uncreped, 50-lb. plain, 50-lb. asphalt-infused; embossed after lamination
T	+	+	+	—	+	—	4	Duplex; 60-lb. machine-creped, 60-lb. machine-creped infused with asphalt
U	+	+	+	—	+	—	4	Duplex; reinforced, 35-lb. sheets machine-creped wet-strength
V	+	+	—	+	+	+	5	Duplex; 40-lb. machine creped
W	+	+	+	+	+	+	6	Triplex; all 40-lb., creped and asphalt-infused before lamination
X	—	—	—	—	—	—	0	Lead foil laminated to 30-lb. plain kraft. Foil side coated with polyvinyl butyral, scrim cloth laminated to kraft
Z	+	+	+	+	+	+	6	Vinyl-treated cloth
AA	—	—	—	—	+	—	1	Triplex; 40-lb. machine-creped outer sheet treated for mold resistance, 2 30-lb. plain sheets
BB	—	—	—	—	—	—	0	Duplex; 2 50-lb. machine-creped sheets, 1 treated for wet strength; wax applied to treated side
CC	+	+	+	—	+	+	5	Triplex; 1 60-lb. machine-creped outer sheet, asphalt-infused; 2 30-lb. plain sheets
DD	+	+	+	—	+	—	4	Triplex; 40-lb. machine-creped sheets, outer ones treated for wet strength; 1 outer sheet wax-treated
EE	+	+	+	—	+	—	4	Duplex; reinforced 45-lb. machine creped wet-strength sheets
FF	—	—	—	—	—	—	—	Duplex; 1 40-lb. machine-creped kraft, 1 22-lb. cellophane sheet
GG	—	+	—	—	+	—	2	Duplex; 1 30-lb. plain, 1 60-lb. infused with wax resin compound; creped after lamination
HH	—	+	—	—	—	—	1	Duplex; 40-lb. machine-creped
II	—	—	—	—	—	—	—	Triplex; 2 40-lb. machine-creped kraft outer sheets; 1 22-lb. cellophane inner sheet

CASE LINER TEST RESULTS (keyed to Table I)



QUESTIONS and

Answers



This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Protective qualities of foil

QUESTION: *I am interested in using thin metal foils for several applications. The foils will be less than 0.0005 in. in thickness and will be printed and handled without being laminated. This seems to be the lowest cost method of using such foils. What is your opinion of the protection these thin foils will give and what type of equipment will be necessary to handle them?*

ANSWER: A study of the cost per unit of surface area of metal foils shows that the thinner the gauge (thickness) of the metal the greater the surface area per unit of cost. Therefore, the thinnest available gauge is the most economical foil to use. Unfortunately, there are many other factors to be considered which will influence the choice of metal gauge more than the cost factor.

Some of the factors which will tend to increase the gauge or the cost will be mentioned. First is the protective requirement of the product to be packaged.

If the product requires protection against moisture change, then the foil if used alone must have a gauge approaching 0.001 in. or thinner gauges must be laminated or coated with agents which will help seal the mechanical porosity of the thin metal. Also the foil must be so formed or sealed so as to provide a moisture tight package structure. If the product contains oils or fats, some similar provisions must be made to prevent the loss of and staining by these components.

If the product is large in volume, irregular in shape, finely divided or soft, the metal gauge must be increased toward 0.001 in. or it must be laminated to a paper to give greater physical strength.

If your product does not need these protective qualities in the foil, but only requires the decorative values of the metal, then the foil may be used unlaminated or as very thin gauges laminated to thin papers.

It is usually desirable to use thin gauges of foils laminated to various types of papers because of the improved operating

characteristics and efficiencies. It is not possible to perform operations such as printing, labeling, wrapping, etc., on very thin foils because they do not have the physical strengths required to go through these operations at effective speeds without tearing and distortion.

You will find that you will obtain a lower final cost, as well as an improved package, if you purchase a thin gauge foil laminated to a paper with an aqueous or a wax type adhesive. Such a structure can be fabricated and handled by many types of equipment and will give you a durable and decorative package.

QUESTION: *We are packers of flour in small size units. Our present package is a heavy white printed kraft paper bag. We are planning to export a portion of our production. Our previous experience in exporting this bag was not good because of the losses and returns due to spoilage of the flour. Can you help us solve this problem?*

ANSWER: Your present domestic package, a printed kraft paper bag, is not adequate for export because it does not have any resistance to the migration of water vapor (moisture) into the flour. Your problem can be solved by using a package which possesses some resistance to moisture transmission. Flour does not absorb moisture except at conditions of high humidity (over 70% R.H.) and also flour can pick up much moisture before spoilage takes place. Both of these factors simplify the problem.

There are several possible answers in terms of the package construction and the final choice will depend upon the cost and the production facilities you have available.

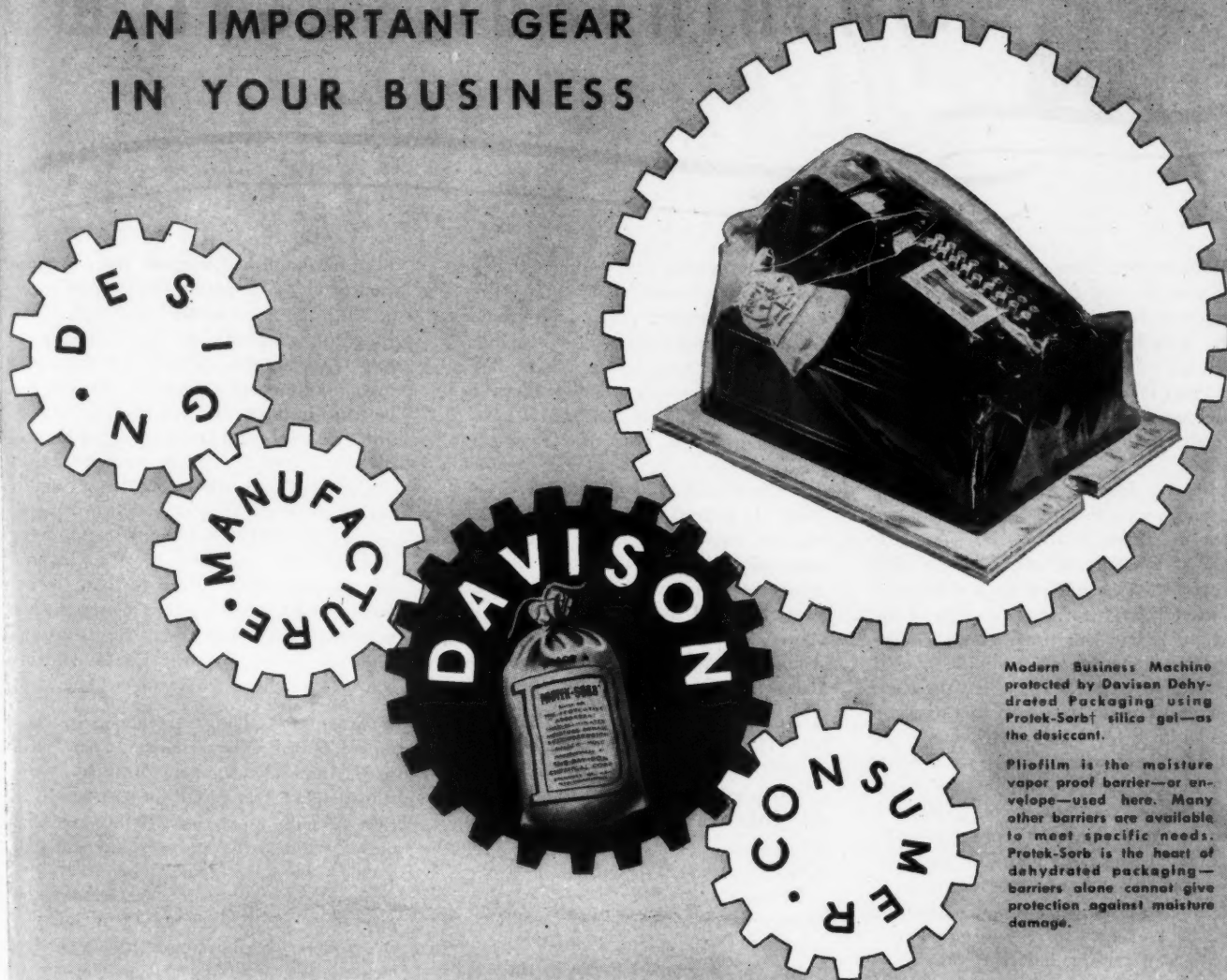
Construction for export use would be a duplex bag, the exterior to be a printed kraft paper, the interior ply to be a dry waxed paper, or for more moisture protection, a laminated glassine with a waxy type laminant.

Your bag supplier can give you samples of both type bags for your laboratory evaluation and testing. Another answer would be to slip your present bag into a moistureproof cellophane bag or to over-wrap your present bag in a heat-sealable moistureproof cellophane. Either of these two constructions would be effective in providing moisture protection as well as increase the resistance to infestation. If your export volume is small, the use of a cellophane bag as a slip-over would be desirable because it would not change your present production facilities and could be done as an extra operation by hand. As your export volume increases, and as machinery becomes available this operation could be done automatically by a wrapping machine.

Space does not permit the printing of all questions received and answers given. Last month our Technical Staff answered more than 35 inquiries. All questions are answered, whether published or not.

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Davison offers a complete packaging service to meet each individual problem. Strict specifications can be adapted to your product—retaining full protection and adding sales appeal. This is a practical, economical and efficient way to assure the ultimate consumer receiving what you planned and made for him—factory fresh and ready for immediate use. This consulting service—staffed by experts—can be added to your organization at no additional cost to you.

Moisture Damage is always a threat to goods in

transit and storage*. Davison engineers can show you how to banish this hazard by eliminating the cause. The use of old and inefficient methods in attempting to combat rust, corrosion, mildew and mold can defeat the best efforts of design and manufacture. In the field of competition, present your product to the ultimate consumer in perfect condition and adjustment. Write to the Manager of Davison Field Engineers without obligation, for information and direction.

*Ordinary Air carries moisture—water vapor—as long as the relative humidity remains below 30%, no moisture damage results. The average relative humidity in practically every industrial section of the U. S. is well above 30%.

D

THE DAVISON CHEMICAL CORPORATION

BALTIMORE 3, MARYLAND

[†]Reg. U. S. Pat. Off.

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DECEMBER • 1945 157



WASHINGTON REVIEW

● **Reconversion Slow**—The war has been over now for some four months. Government controls, for the most part, are in the limbo of the past. Yet industry isn't moving along as rapidly as had been anticipated and forecast. There are, of course, numerous reasons for the continuing lack of goods of all types—consumer as well as producer. A fraction of the trouble can be laid at the door of labor unrest; other problems are responsible for part of it.

But the thinking in at least some segments of Washington officialdom is that industry itself is holding back deliveries. For what? Why, for the beginning of the calendar year 1946, when taxes will be lowered on incomes of individuals and corporations. The feeling is that there are being "stockpiled," to revert to a wartime term, quite a few items which are being made but which will not reach the civilian market until after the first of the year. What this sudden release of goods will mean to the industries which provide packing and packaging materials for them is questionable. Undoubtedly many of these items are already boxed, bottled or otherwise packaged for the ultimate consumer. It is known, however, that shipping containers have been in short supply, and unless some provision has been made for packaging needed to move these items from factories and warehouses, this bottleneck in itself may further delay these goods reaching the consumer.

Examples in the consumer goods field of items which are not reaching the market even though they are in production may be found in washing machines, radios and dozens of similar items. Always the answer is—"After the first of the year."

Similarly, in the field of goods needed by producers of consumer items, while nearly all controls are off, the report is that there is no large-scale distribution anticipated before the "first part" of 1946. A case in point is that of food freezing and processing equipment—an industry which will be a larger and larger user of packaging during the next few years.

● **Army Pro-Coating Program Finished**—Protective coating of cans of fruits and vegetables for the Armed Forces has ended. Shortly after the Japanese surrender the Quartermaster Corps, which, together with industry, developed the pro-

coating program, told canners that pro-coated cans would be accepted only so long as pro-coating paints and other materials then in the hands of canners, or on contract to them, lasted. Now it's all gone, the Army says, and no more pro-coated cans are being delivered.

Inaugurated in 1943, the Army's pro-coating program covered about 20 million cases that year and 40 million cases in 1944. It proved so successful in preventing can rust and pinholing in overseas areas of high humidity where day temperatures were high, with a decided drop at night, that some 200 food-processing plants had been equipped to pro-coat around 90 million cases of canned fruits and vegetables from their 1945 packs.

● **New Printing Presses to Be Slow Coming**—The printing trades, and that includes every sort of reproduction from newspapers to whiskey labels, will have to worry along until about next May or June before they can get new and improved machinery, according to CPA (WPB).

The complicated nature of printing machines—presses, typesetters and every other sort of machine used in these trades—is the biggest factor in this seemingly long "breather" between war and peace production. Some manufacturers report difficulty getting castings; others are having trouble clearing plants of war inventories.

Indications are that by June the estimated monthly production will be over \$6,000,000. Printing machinery manufacturers had been making gun mounts, recoil mechanisms, radar equipment and other military equipment during the war.

● **Paper**—Most important news in the paper field is the gradual easing of newsprint. While it is still far from "free," quite a number of newspapers have been granted extra quotas by CPA. At the same time, newsprint mills on this continent are expected to be relieved of sending some 40,000 tons abroad early in 1946 (as scheduled), as the result of conservation measures in Britain and Northwest Europe, increased Swedish production, and discovery of stocks in Holland.

● **Glass Container Production Doubled**—Production of glass containers will amount to 104,000,000 gross in 1945, compared with 53,391,000 gross in 1940. This has

been accomplished without the construction of any new plants of consequence.

The glass container standardization program adopted by the industry is largely responsible, CPA said in announcing the tremendous increase. Besides the increase in units, the fact that the standardization program emphasized production of larger-sized containers made the 1945 packaging ability of glass containers manufactured more than double that of 1944.

Standardization and simplification were first officially sponsored by the Government in May 1942. Prior to that, the industry had adopted certain measures on a voluntary basis, but these were substantially extended by the L-103 controls (most of which are still in effect.)

● **Army Packaging Development**—Removal of the Quartermaster Corps' Research and Development Branch to the Philadelphia Quartermaster Depot means that virtually all of the Army's peacetime packaging research and development will at least have a "home"—heretofore its activities had been widely scattered. The new office in Philadelphia will take in the package testing laboratory heretofore located at Washington Quartermaster Depot, all the activities of the Research and Development Branch heretofore located at the Office of The Quartermaster General in Washington and the food and packaging research which has been carried on at the Chicago Quartermaster Depot.

Also, because of the strides QM has made in package and packing development during the war, it is likely that other services within the Army and Navy will move their packaging developmental activities to the Philadelphia institution.

● **New Inter-Agency Packaging Set-up?**—Without fanfare, Treasury's Procurement Division has been sounding out virtually all Government agencies which have anything to do with packing and packaging—and that's just about all of them—as to the setting up of an inter-agency packaging board. It is suggested to the departments, bureaus, etc., that delegates be named to set up the new organization. Understanding here is that plans call for the new set-up to function something like ICC's Bureau of Safety—to set minimum standards and similar minima—along with, of course (Continued on page 186)

Kodak

it's SHOW TIME

Increased quantities of
EASTMAN ACETATE SHEET
are bringing back the
"individual showcase"

In "civvies" once more, Eastman Acetate Sheet invites your immediate attention as today's ideal packaging material. Every week sees more of it becoming available.

Extremely brilliant, optically clear, Eastman Acetate Sheet dresses up products to "go places"—protects against dust, dirt, shopwear, and handling . . . while giving full display.

In these handsome "individual showcases," products can stay out on the counter—where they belong—and send sales soaring.

To get in on the ground floor with this

extremely attractive packaging material, now's the time to visit the Kodak Packaging Laboratory. Learn what Eastman Acetate Sheet can do for your product. For appointment write or wire:

Cellulose Products Sales Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

EASTMAN

Acetate Sheet

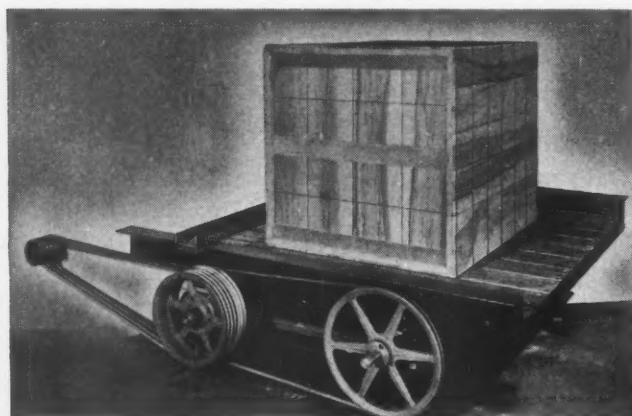
ATTRACTS • PROTECTS • SELLS

Equipment and Materials

PACKAGE TESTING TABLE

L. A. B. Corp., Summit, N. J., has developed a vibration machine designed specifically for testing shipping containers, in line with recommendations and suggestions from representatives of the Assn. of American Railroads and manufacturers of cars, trucks and draft gears. The development followed an investigation to determine the nature of the forces and movements in freight cars and overland trucks that cause damage to packaged products. The table simulates all vibrations that containers are subject to in such vehicles which, in turn, helps to determine just how strong a shipping container for a particular product should be.

The machine consists of a 5 by 5-ft. steel-bound wooden platform, which carries 1000 lbs., under which are two separated



shafts. The bearings for the shafts are mounted on a structural steel base. Each shaft rotates two separated eccentrics, each having a total throw of $1\frac{1}{8}$ in. The first shaft is driven by means of a 1,200 r.p.m. motor at a speed of 300 r.p.m. (5 c.p.s.). The second shaft is driven from the first shaft and runs 260 r.p.m. ($4\frac{1}{3}$ c.p.s.). The eccentric straps of shaft No. 1 are rigidly fixed to the table and impart to the table a circular vibration in a vertical plane; while the straps of shaft No. 2 are each connected to the table through a "free link" and impart to the table a straight vertical vibration. The combination of the circular motion plus the non-synchronous speed of the table above the second shaft creates an irregular vibration similar to that experienced in a freight car. The table tips every few seconds to an angle of about 3 deg. with the horizontal, first in one direction, then in the other, thus simulating the tipping and rocking of a freight car. The company also offers a line of standard vibration test machines having adjustable frequencies and adjustable amplitudes for use in more exacting product design and development. Complete specifications will be sent on written request to the company on your organization's business stationery.

TRAFFIC CONTROL FOR CONVEYORS

An automatic traffic control to prevent jamming of packages when two or more conveyor lines converge into one has been announced by the Alvey Conveyor Mfg. Co., St. Louis, Mo. This control is a self-contained mechanism, the operation of which depends solely on the positions of its arms. While one arm is pushed forward to allow packages in that conveyor line to move on, the other arm is locked in an extended position to hold back the second line. Thus, alternate groups of packages from two conveyor lines move forward into the single line. When two or more

branch conveyor lines converge into one main line, coordination of package flow is obtained by placing a traffic control at each conveyor junction. This makes possible the simultaneous operation of all branch lines feeding into the main line.

Arms for the traffic control are furnished in various styles, type depending on the width of the conveyor and the package characteristics. Adaptable to belt, live roller and chain conveyors. Further information may be had by addressing the company.

SEMI-AUTOMATIC FILLER

Custom built for filling all liquids, including viscous and foamy preparations, is the semi-automatic machine made by M. R. M. Co., New York City. Fully adjustable, from one ounce to one gallon, the filler is adaptable to a full range of bottles of all sizes, shapes and mouth openings. Supplied with 8, 10 or 12 spouts, it is simple to operate inasmuch as the head travels on self-aligning patented bushings—causing its raising and lowering to balance perfectly with only the slightest effort on the part of the operator. The fully automatic overflow, another patented feature, makes it unnecessary to stop the machine at any time during its operation. No manifolds are employed either for discharging or feeding the liquid to the spouts.



BRIDGE RAMPS FOR CAR LOADING

Engineered and designed to bridge the gap between loading (dock) platform and car, Elizabeth Iron Works, Elizabeth, N. J., announces a new bridge ramp. For use with a fork truck as a means of transportation, sizes to span a gap from 5 ft. to 46 ft. carrying a loading of 15,000 lbs. are available; riding surface has four-way non-skid checkered plate. Curvature at the top of the ramp permits variance in degrees of height between the loading platform and the car. Lift handles stay up when in use and slide down flush with the riding surface when not in use. Other features are: shock plates which absorb impact and transmit it to stringer plates; self-leveling locking device on the sides attached to the stringers operated by a heavy tempered steel pin adjusted to set in place to fit the openings.





They got the idea from Crown Can

YES, it's true. From our very beginning we have gone in for personalized service in a big way. Being no chair-warmers, Crown officials spend much of their time in the field. They call on the trade regularly, helping Crown customers with their packaging problems, keeping them hep to the latest canning

procedure. What with such service and the fact that we produce cans of highest quality, it is easy to see why we have come along so fast . . . If you'd like to get in on this good thing, just drop us a line.

CROWN CAN

INDEPENDENT AND HELPFUL

Plants and People

George W. Flanagan has been made manager of **B. F. Goodrich Chemical Co.**'s development laboratory in Cleveland. Formerly in charge of Geon latex development, Mr. Flanagan will now direct the activities of a large technical staff engaged in development work on the company's resins, plastics and chemicals.

Stein, Hall & Co., Inc., New York, has announced the resignation, effective January 1, of **A. R. McCleary** as managing director of its Canadian affiliate, **Stein-Hall, Ltd.**, Toronto, Ont., and the appointment of **David McGill** as general manager, with **E. F. Clark** as assistant manager. Mr. McGill joined the company on October 15 on his release from the Canadian Army, where he was engaged in developing clothing and equipment for use by the Royal Canadian Navy and Air Force in the Pacific theatre of war. **Stein, Hall & Co., Inc.**, announces the appointment of **John Younger** to head its Paper Laboratory in Long Island City, N. Y. Mr. Younger was formerly associated with the **Institute of Paper Chemistry**.



H. S. Daniels

H. S. Daniels has been elected executive vice-president of the **Union Bag & Paper Corp.**, succeeding **H. P. Carruth**, who resigned to enter private business as a consultant but will remain as a director and in an advisory capacity for several months. **G. W. E. Nicholson**, formerly with the company's Savannah plant, has been named vice-president in charge of manufacturing, and **Donald J. Hardenbrook**, formerly assistant to the president, is now vice-president in charge of industrial and public relations and woodlands.

Eli Freyberg has been elected president of **Freyberg Bros.-Strauss, Inc.**, succeeding **Aaron Freyberg** who became chairman of the board of directors.

James A. Windram has been appointed St. Louis district manager of the **Industrial Products Division** of **The B. F. Goodrich Co.**, succeeding **George Livermore**, who retired recently.

Construction of a new plant to house **The American Paper Goods Co.**'s midwestern operation has been started at 4701 W. Foster Ave., Chicago. The new building has been specially designed to accommodate new high-speed machinery for the production of ice cream containers, beverage cups and specialty bags.

American Coating Mills, Inc., has under construction in Chicago a modern plant to replace the present plant building. It will be ready next March and will be used exclusively for the manufacture of folding cartons. At Elkhart, Ind., the company's new carton plant is expected to be completed in April. A subsidiary company, **Modern Packages, Inc.**, has recently let contracts for a new building to be available next spring.

Post Machinery Co., Inc., organized in November 1944 for designing and producing machinery for the paper box industry, will soon have equipment available to the market. The company's president, **Walter P. Fergnani**, and vice-president, **James F. Field**, were formerly with **International Paper Box Machine Co.**

Dr. Charles R. Stumbo, widely experienced in educational and industrial fields, has joined the process and product research division of **Owens-Illinois Glass Co.** as supervisor of bacteriology research. Dr. Stumbo was recently engaged in research work on antibiotics at Michigan State College and previously had charge of plasma processing work at Michigan State Dept. of Health.

The Gould Paper Co., of Lyons Falls, N. Y., has appointed the **Mead Sales Co.**, 230 Park Ave., New York City, as exclusive sales representatives for its groundwood printing and converting sheets. Grades to be manufactured will be sold under the Gould mill brand name.

Perley S. Wilcox, chairman of the **Tennessee Eastman Corp.** board, has been elected chairman of the board of directors of the **Eastman Kodak Co.** to fill the vacancy caused by the death of **Frank W. Lovejoy**. Four new vice-presidents were also elected: **Ivar N. Hultman**, **Edward S. Farrow**, **James E. McGhee** and **Maj. Gen. Edward P. Curtis**.

A projected \$15,000,000 expansion in plastics production facilities of **The Dow Chemical Co.** is announced by **Dr. Willard H. Dow**, president. About two and a half million dollars of new construction is now in progress. The balance is represented by a continuing extension of facilities over a five-year period, at which time the company hopes to be producing 150 million lbs. of plastic materials per year. While no new basic materials are contemplated, some modifications of the company's present plastics will be going into volume production for the first time.

Both the offices and the plant of **Creative Printmakers Group** are now located at 200 Varick St., New York 14, N. Y.

Nagel-Ryan Mfg. Corp. has been dissolved and **Bagprint Machinery Corp.**, Royal Oak, Mich. has been organized for the manufacture and distribution of flat and square bag machines and aniline printing presses.

Continental Can Co., Inc., announces the following personnel changes: In its cannery equipment service department, **C. P. Weber**, formerly district manager at Syracuse, has been made manager of the Chicago district. **G. F. Jackson**, who was district manager at Baltimore, has assumed Mr. Weber's former duties and is in charge of the entire Eastern district. **Edward Nickels** will temporarily assume supervision of the Syracuse area, pending consolidation of the Syracuse district at Baltimore. Recently returned to the company's Houston sales office after service with the Army are **J. A. Hugenberg**, assistant to the district sales manager of general line sales, and **Roy C. Sewell**, general line salesman. In the manufacturing department, **J. R. Lynch** is now assistant to **L. C. Walgash**, assistant chief industrial engineer. **R. C. Johnson** succeeds Mr. Lynch as Eastern division industrial engineer.

New construction under way includes a warehouse at Houston and an office building at New Orleans. The equipment service shop at Springfield, Mo., has been discontinued.

The Mead Corp., of Chillicothe, O., announced that it will now handle directly the sale, distribution and merchandising of its chestnut corrugating board, thus terminating its sales arrangement with the **LaBoiteaux Co.**, which distributed for many years a large part of the corporation's board production. Mead's **Alan G. Goldsmith** and **Al. H. Mahrt** will supervise sales set-up.

Reynolds Metals Co. has announced the appointment of **James Birnie, Jr.**, as art director for the foil division. His assistant will be **Frank Condon**.

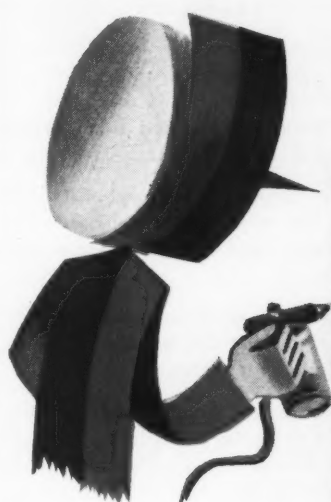
Shellmar Products Co. announced the following personnel changes in the Western Division: **Ray E. Henning**, long associated with **du Pont**, becomes director of sales, thus allowing **O. D. Carlson** to devote his entire time as general manager. **H. S. Dunkel**, assistant director of sales in San Francisco, moves to the South Gate headquarters as jobber representative. **H. R. Peterson**, former Los Angeles representative, assumes the San Francisco area accounts. **W. R. Miller** (Continued on page 164)



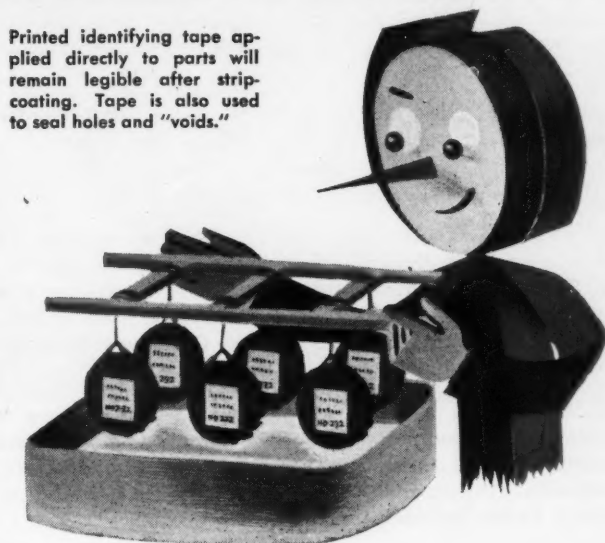
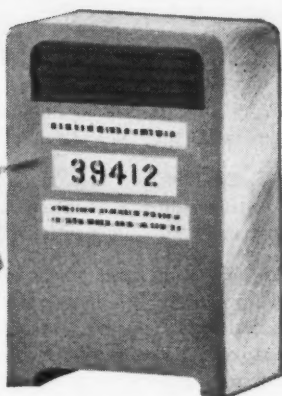
Tape replaces the need for "inner" cartons in packaging. Simply tape small cartons together and fit into the "outer" shipping carton.



Printed tape becomes a permanent label — carries brand name, instructions, etc. — adheres firmly to metals, plastics, nearly all surfaces.



Stencils can be cut in tape—used over and over in spray painting and silk screening. Tape repairs silk screens quickly, too.



Printed identifying tape applied directly to parts will remain legible after strip-coating. Tape is also used to seal holes and "voids."

Tape does almost everything

- Everybody's cost-minded now — and FILMONIZE self-sealing tape is due for a bigger-than-ever boom. Why? Because it does so many industrial jobs so well — and saves time and money on every one!
- Have you used FILMONIZE? It's the no-tangle, no-curl-back, easy-to-use tape that so many top industries are demanding by brand name. Look into the FILMONIZE line today — ask your local distributor for the full story of its amazing efficiency.
- FILMONIZE comes in Transparent Tapes, Colored and Multi-Colored Tapes, Printed Tapes, Riveting Tapes, Identifying Tapes, Splicing Tapes, Acetate Fibre Tapes, Metal Tapes, Specialty and Packaging Tapes. All in widths of 1/2" to 18".

Filmonize
TRADE-MARK REG.

SELF-SEALING TAPES

INTERNATIONAL PLASTIC CORPORATION

Morristown

New Jersey



(Continued from page 162) will be sales representative in Los Angeles formerly Mr. Peterson's. **E. C. Griepengerl** adds to his Los Angeles territory the city of San Diego and the states of Arizona and New Mexico, formerly covered by Mr. Peterson.

The Auburndale, Mass., office of **Shellmar Products Co.** has recently been moved to 126 Newbury St., Boston.

Martin Miller, vice-president and director of **American Machine & Foundry Co.**, has been elected 1946 president of the **Bakery Equipment Mfgs. Assn.**

H. S. Cutler has been appointed superintendent of the Lockport, N. Y., mill of the **United Paperboard Co.** Mr. Cutler, formerly with the **Upson Co.**, replaces **S. D. Hodge** who is now superintendent of the company's mill at Thomson, N. Y.

Joseph Mangion and **Joseph L. Utter** have recently joined the staff of **Arthur D. Little, Inc.**, Cambridge, Mass. Mr. Mangion will take charge of the company's rubber laboratory, and Mr. Utter will engage primarily in work on ceramics.

Creative Printmakers Group, of New York, has opened a Canadian branch office at 2424 Yonge St., Toronto, Ont. Officers of the new branch are **Fred H. Edgington**, general manager, and **Eric Hardman**, sales manager. Specializing in the decoration of packages and containers of glass, plastics, wood and metal, the new office will have the same decorating facilities that are available at the home plant.

Walter P. Margulies, director of interior design for **J. Gordon Lippincott & Co.**, industrial designers, has become a partner in the firm. Mr. Margulies is the author of a number of treatises on the principles that should govern new trends in design.

G. Fred Rieman has been appointed director of the fruit jar and domestic products division of **Ball Brothers Co.**, Muncie, Ind. Mr. Rieman was granted leave of absence by the company in 1943 to serve as assistant director of the **WPB Containers Division** upon recommendation of the **Glass Containers Manufacturers' Assn.**

Blue Moon Foods of Thorp, Wis., announced their purchase of the Owen, Wis., condensary plant of **The Carnation Co.** Building improvements are being planned to convert the plant to cheese production. Recent additions to the organization include Maj. **Leslie J. Virkler** and Maj. **Jordan B. Uttal**.

Bernard T. Malter has been named general production manager in charge of all production, research and laboratories for **Flavor Service Corp.**, Chicago. Mr. Malter, a veteran of more than 15 years in the food industry, was formerly with **Glidden Co.** as general superintendent of the edible division.

Albert J. Keenan has joined the trade sales division of **Interchemical Corp.** as assistant sales manager. Mr. Keenan was formerly with **du Pont**.

Maj. Robert R. Melson, formerly with the Packing and Packaging Branch of the Subsistence Research and Development Laboratory, has joined the **Marathon Corp.**

Lt. Col. John W. Fraser, director of procurement at the Chicago Quartermaster Depot, has not yet announced his postwar plans.

Next year will mark the 50th anniversary of **Lutz & Sheinkman** as engravers and lithographers. Organized in 1896, they were the first lithographers to install offset equipment in New York City. The officers of the company are: **Jacob Greenberg**, president; **Herbert S. Nemeroff**, vice-president; **Francis Nemeroff**, treasurer; **Jeanette Greenberg**, secretary.

Joseph W. Scott, formerly of the **du Pont** cellophane division, has been appointed sales manager of **The National Packaging Sales Co.**

The managing directors of **National Starch Products, Inc.**, plants in England and Holland are visiting New York headquarters of

the company to discuss peacetime manufacturing and marketing problems. A meeting of the company's domestic representatives will be held in New York **December 14 to 16**, when plans formulated during the war will be explained and put into operation.

Plastic Film Corp. has announced the appointment of **Leonard F. Smith**, formerly with **Tubize Rayon Corp.**, to a newly created post where he will supervise the market development, merchandising and promotion of new peace-time products. The company plans to further enlarge its recently expanded facilities at Plainfield, Conn., for the production of moisture-vapor barriers and plain and novelty cast films.

National Starch Products, Inc., has received the Army-Navy "E" award at Dunellen, N. J., for excellence in the production of adhesives and starch products required in the war and redeployment programs.

Chase Bag Co., has announced the appointment of **Jack P. Grady** as advertising and sales promotion manager. Mr. Grady assumed his new duties upon his release from the Navy.

The closure division of **Crown Cork & Seal Co., Inc.**, announces the appointment of **Walter F. Kneip** as sales representative in the Philadelphia and North Jersey territories. His headquarters will be at the company's general offices in Baltimore.

Chicago has been designated the midwest office of **General Printing Ink Corp.** **C. D. Adkins**, as midwest manager, will have under his jurisdiction the following district sales managers: **R. H. Westling**, Chicago; **E. C. Stone**, Minneapolis; **L. R. Antrim**, Detroit; **E. A. Roles**, St. Louis; and **A. G. Caffer**, Fort Worth.

F. G. Findley Co., of Milwaukee, announces removal of its plant to 3033 W. Pemberton Ave. The new quarters will provide a 40% increase in production capacity and 100% increase in operating efficiency, the company states.

L. T. Swallow & Associates, Detroit, have been appointed representatives for the **Mehl Manufacturing Co.** for the Michigan, Northern Ohio and Northern Indiana territory.

The New York sales offices of **Stecher-Traung Lithograph Corp.** are now under the management of **James T. Sullivan**, following the resignation of **Lou Wetzel**. **Howard G. Wharton** and **Jerome Neri**, recently released from the Service, have returned to the company's New York sales office.

Expansion of the chemical products division of **The Goodyear Tire & Rubber Co.** to handle postwar demands has been announced by **C. P. Joslyn**, division manager. Assistants to Mr. Joslyn are **E. E. Ellies** and **Herman R. Theis**. Mr. Theis is also manager of the plastics and coatings department. Other department managers are **Howard D. Herbert**, Airfoam sales, and **A. F. Landefeld**, Pliofilm sales. In the Pliofilm sales department, **A. B. Clunan** is in charge of the direct packaging organization. Reporting to Mr. Clunan will be **W. J. O'Keefe**, New York; **J. B. Post**, Chicago; **E. D. Beadle**, Los Angeles; and **R. J. Buskirk**, Atlanta, all in charge of district sales offices.

S. J. Blum, newly elected president of **Arvey Corp.**, announced the following organizational changes: **Paul Godell**, retaining his post as vice-president, is general manager of the Chicago division. **Charles Strauss**, former purchasing director at the Chicago plant, is now assistant general manager of this division. **John Eggum** was appointed secretary-treasurer, and **Louis A. McLean** assistant secretary.

David B. Hills has reopened his workshop for the creation of package designs, three-dimensional counter displays, lithographed displays and layouts for space advertising. His new address is 515 Madison Ave., New York.

Lt. Col. Walter L. Hardy, formerly Chief of the Container and Packaging Branch, Engineering Division, Air Technical Service Command, Wright Field, has become associated with the **Protective Coatings Corp.**, Belleville, (Continued on page 172)

Thousands of food products owe their shelf-life freshness and taste values to protective packaging papers by **RHINELANDER**



C

OFFEE OWES ITS TASTE-LIFE TO PROTECTIVE PACKAGING



Favorite beverage of millions —coffee owes its popularity to unique taste qualities which in turn are dependent on freshness. To maintain a peak of excellency in coffee as with other packaged food products has necessitated a special type of protective covering—a non-porous, strong and flexible material for bags, wrappings and liners. Such are world-famous Rhinelander Protective Papers. Born of fibre from hardy

trees selected in America's Northlands, they inherit enduring stamina for carefree, economical conversion and usage. Many other products such as cereals, bakery goods, candies, tobacco and drug items also depend upon these papers for long shelf-life and retention of original flavor and potency. Every maker of products that possess variable qualities subject to time and environment will find dependable guardians of quality in *all* Rhinelander Protective Papers.

RHINELANDER *Protective Packaging* PAPERS

Moisture/Vapor-Proof Coated Glassines
Wet Strength Glassines
Wet Strength Greaseproof
Heat Sealing Coated Glassines

Lord and Shortening Liners
Packing Industry Wrappings
Genuine Greaseproof
Specialty Bag Papers

Confectionery Papers
Cereal Wrapping Papers
Coffee Bag Papers
Cracker Box Liners

Laminated Greaseproof Papers
Wax Laminated Glassine
Greaseproof Innerwraps
Opaque Label & Bag Glassine

RHINELANDER PAPER COMPANY • MILLS AT RHINELANDER, WISCONSIN, U.S.A.

For Your Information

The Packaging Exposition of 1946, to be held in the Public Auditorium, Atlantic City, N. J. April 2 to 5, inclusive will be the largest in the fifteen year history of the exposition, according to an announcement by the American Management Assn. with some 150 leading manufacturers of equipment, machinery, supplies and services essential to the field of packaging, packing and shipping, participating.

An attendance of between 6000 and 7000 executives of packaging-using industries in the United States, Canada and Latin America is anticipated for the Exposition and the conference.

An investigation by the association discloses that the housing situation in Atlantic City promises to be altogether satisfactory during the week of the exposition and conference. Assurances have been received from hotels there that they will be able to accommodate adequately all anticipated visitors. To facilitate hotel arrangements for the personnel of exhibiting companies as well as visitors to the exposition, the association is planning to establish a special housing bureau. The address is 16 Central Pier, Atlantic City.

Long known as outstandingly the most beautiful industrial show in the United States, the Exposition will find a fitting setting in the Atlantic City Auditorium, which houses the largest single exposition hall in the country—almost three acres of unbroken spaced under a curved ceiling that rises the equivalent of more than eighteen stories from the floor. Adequate space will be available for many companies it has in the past been unable to accommodate.

Members of the exhibitors' advisory committee of the exposition include M. C. Pollock, chairman, A. B. Clunan, Alan S. Cole, J. M. Cowan, Robert D. Handley, Roy S. Hanson, L. I. Hodgdon, H. H. Jones, M. P. Junkin, M. R. Kambach, L. L. McGrady, Paul Meelfeld, C. E. Schaeffer and Paul Thompson.

The Society of the Plastics Industry, Inc., announces that the first National Plastics Exposition will be held in Grand Central Palace, New York, on April 22 to 27, next. New materials, methods and products will be shown. While this is primarily a trade affair, arrangements will be made to invite the public on certain days. It is expected that the annual meeting of the SPI for New York will be held during the Exposition.

The first working and research graduate scholarship to be established in the highly specialized field of air freight was announced by Dean G. Rowland Collins of the Graduate School of Business Administration of New York University. The scholarship, designed to encourage independent research in the economics of air freight at NYU, was established in memory of the late Col. Edward S. Evans, pioneer in commercial aviation.

American Cyanamid Co.'s Plastics Division has released the first issue of "Plastics Newsfront," a new magazine dealing with applications of molding compounds, resin adhesives and laminating resins. The publication is a profusely illustrated, non-technical presentation of new plastic developments and uses. Copies may be obtained by addressing The Editor, Plastics Newsfront, American Cyanamid Co., 30 Rockefeller Plaza, New York 20.

The Plexiglas Design Manual recently published by Rohm & Haas Co. is said to be the first comprehensive manual on design methods for acrylic plastics. The successful use of these plastics depends in large measure upon familiarity with their properties and an accurate knowledge of the fabrication methods which should be employed. The manual was prepared to fill this need. Copies may be obtained from Rohm & Haas Co., Washington Square, Philadelphia 5.

The Packaging Machinery Mfgs. Institute, at its annual meeting

on November 6 at the Westchester Country Club, Rye, N. Y., re-elected the following officers: Frank B. Fairbanks of the Horix Mfg. Co., president; George A. Mohlman of the Package Machinery Co., vice-president, and H. Lyle Greene of the J. L. Ferguson Co., vice-president. Chosen for three-year terms as directors of the Institute were George W. von Hofe of the New Jersey Machine Corp.; Charles L. Barr of the F. B. Redington Co., and Howard R. Stewart of the Economic Machinery Co.

Paul S. Willis, president of the Grocery Mfgs. of America, Inc., has announced the mailing of a questionnaire, the Market Basket Quiz, to determine the reactions of a selected group of women to grocery labels. Results will be tabulated for the guidance of grocery manufacturers and other interested industry groups. The quiz is intended to create a consciousness on the part of women of the importance of labels on grocery packages, and is part of an over-all campaign (1) to assist manufacturers in reviewing their present labels and continuing progress toward good descriptive labeling and (2) to show women how labels can work for them in their discriminating choice of products. The first consumer booklet in this campaign was *The Inside Story*, which presented the case on descriptive labeling to the consumer and invited readers to give thought to the kind of labels that would be of most value to them in selecting grocery products. The first booklet elicited enthusiastic response from every part of the country, the association states.

Durez Plastics & Chemicals, Inc., has just published *Plastics Primer*, a booklet designed to clear up confusion in the minds of laymen concerning phenolic plastics. One of its outstanding features is a concise chart which points out the physical and chemical properties of a representative group of Durez phenolic molding materials. Copies may be obtained from the Durez company at North Tonawanda, N. Y.

Official opening and inspection of the new Research department of the Lithographic Technical Foundation at Glessner House, Illinois Institute of Technology, 1800 Prairie Ave., Chicago, was held on October 23. Made available through the foundation's new association with Armour Research Foundation and Illinois Institute of Technology, the Glessner House laboratories will house research activity of a primarily lithographic nature. On broader projects involving specialized knowledge and expanded equipment, for electronics, metallurgy and other specialized fields, the work will be carried on at special laboratories at Illinois Tech's Technology Center, 33rd and Federal Sts., Chicago.

Packaging for air cargo shipments formed the theme of the October meeting of the Industrial Packaging Engineers Assn. of America, held at the Hotel Sherman, Chicago, on October 29. Principal speakers were Paul E. Burbank, air cargo department of United Air Lines, and S. J. Stanfield, Atlantic division of Pan American Airways. M. B. Crawford, chief equipment engineer of United Air Lines, gave an illustrated talk on *Loading Equipment for Air Cargo*, and a Pan American sound movie in color, *Week-end in Bermuda*, was shown as an added attraction. Virginia Southard, United Air Lines stewardess, related some amusing sidelights on air travel.

A. M. Bond, president, National Paper Box Mfgs. Assn., announces that the next annual convention of the association will be held at The Drake, Chicago, May 12 to 15.

In a new booklet entitled *Grocery Merchandising Facts—For More Profitable Sales in the Greater New York Market*, Paul Sayres discusses the complexity of the Greater New York grocery market in the light of his long (Continued on page 172)

1.

3.

2.

4.

**What in the
WORLD
fits into your
Labeling
PICTURE?**

1. The WORLD BEE-LINE Labeler fits into your picture when you contemplate both quality and quantity production of round, square, oval, flat or panel containers with front labels, front and back labels, neck labels, or all three — and when you require smooth, gentle, straight-line operation without detours or collisions. Picture a production of one or two neatly labeled containers every second.

When gallon or half-gallon jugs or bottles are a part of your production picture the *Model HG BEE-LINE* fits into it with equal effectiveness.

2. The WORLD SEMI-AUTOMATIC Labeler fits into many a picture where relatively short runs and a large variety of container sizes and shapes are in prospect. Change-overs are quickly made, from tiny samples to gallon jugs. The production picture visualizes about 40 labeled containers per minute.

3. The WORLD ROTARY Labeler fits your case, as it has that of so many of nationally famous beverage and condiment bottlers, when you want to turn out continuous, mass production of round bottles up to 4" dia. Production is readily synchronized to any desired bottling line speed and is supremely dependable. Operating and maintenance attention is at a minimum.

4. The WORLD TURRET Labeler fits in neatly and efficiently when your production picture calls for precision labeling of smooth or fancy containers — all shapes and sizes from 6 oz. to quarts. It is specially designed to provide high quality work at low cost. Picture 70 bottles a minute, or twice that, each one dressed up spic and span.

You can depend on WORLD Labeler Headquarters to make unbiased recommendations as to the best, most economical Labeler for you whatever the quantity, shapes, sizes and types of glass containers and of labels.

Now is the time to get the world picture. Write

**"YOU GET THE
BEST LABELERS
IN THE WORLD"**

ECONOMIC MACHINERY COMPANY

Builders of World Automatic and Semi-Automatic Labelers for Every Purpose

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U. S. patent digest

edited by H. A. Levey

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at ten cents each in currency, money order or certified check; postage stamps are not accepted.

Spectacle Case, A. J. Pratt (to American Optical Co., Southbridge, Mass.). U. S. 2,385,842, Oct. 2. A spectacle case composed of rear and front walls connected together along their bottom edges and part of their end portions to provide a pocket for a pair of spectacles, said rear wall having at its top an elongated portion centrally disposed thereof to form a closure flap.

Vacuum Release Stopper, A. Skar, Minneapolis, Minn. U. S. 2,385,847, Oct. 2. A vacuum release stopper for vacuum bottles comprising a tapered resilient body, said body having a normally open small diameter passage extending therethrough.

Continuous Filling and Packaging Machine, H. F. Waters, New York, N. Y. U. S. 2,385,897, Oct. 2. In a continuous package making and filling machine, the combination which comprises a filling tube over which web material is drawn, means for wrapping the web material around said tube forming means including a U-shaped plate and a cooperating disc for bringing the longitudinal margins of said web material together to form a fin-type seam folded back upon itself.

Snap-Down Bottom, Flat-Folded Paperboard Container, H. F. Waters, New York, N. Y. U. S. 2,385,898, Oct. 2. A paperboard blank for conical hollow containers, said blank comprising symmetrical wall sections spaced by an integral bottom section.

Printing Ink, E. F. Carman & W. Reil (to Interchemical Corp., New York, N. Y.). U. S. 2,385,793, Oct. 2. A printing ink consisting of pigment dispersed in a vehicle comprising an aqueous dispersion of a trialkylol amine soap of talloil.

Glass-Lined Containers for Corrosive Substances, P. E. Knudsen (to Pittsburgh Plate Glass Co., Allegheny County, Pa.). U. S. 2,385,924, Oct. 2. A container structure comprising an outer reinforcing shell and an inner lining being spaced from the shell, said outer shell having an inspection opening formed therein.

Apparatus for Feeding and Cutting Material Into Definite Lengths, L. N. Linscott (to Alexander Smith & Sons Carpet Co., Yonkers, N. Y.). U. S. 2,385,926, Oct. 2. An apparatus for feeding and cutting pile-forming material into pile elements of definite lengths which comprises a table, the forward edge of which constitutes a bottom knife, and means to intermittently feed a pile-forming material to said table, and pusher engaging said pile material on said table at predetermined times.

Sealing Machine, W. Stelzer (Stoffel Seals Co., Inc., New York, N. Y.). U. S. 2,385,951, Oct. 2. An automatic machine for affixing the cup and disc of a seal to a string placed in said machine, said cup having diametrically opposed slots in its rim to accommodate said string, comprising a crimping die and a cooperating punch adapted to crimp the rim of said cup over said disc.

Glass Tank, M. S. Tarnopol (to Pittsburgh Plate Glass Co., Allegheny County, Pa.). U. S. 2,385,954, Oct. 2. In a corrosion resisting tank, opposite plate glass side walls, opposite plate glass end walls, and a plate glass bottom, the several glass plates fitting at their junction by interfitting groove and edge connections.

Carton, G. Rottman, Brooklyn, N. Y. U. S. 2,386,407, Oct. 9. A hat-supporting device comprising a wall, a pair of brackets located at the inner face of said wall, each said bracket having a first leg which is connected to said wall, each said bracket having a second leg which is slidably connected to said wall, each said bracket being made from a transversely bendable blank.

Dispensing Device and Arrangement Thereof, K. Ludwig Schiff, Philadelphia, Pa. U. S. 2,386,408, Oct. 9. In a dispensing device for domestic sheet paper, such as toilet paper, a wall fixture or base, a body on which holding means to support two stocks of the same paper are mounted adjacent each other and relatively close to said base, means for rotatably connecting the body to the base so that it may be swung into two terminal positions around an axis.

Tablet and Means for Packaging Same, W. F. Wilhelm, Chicago, Ill. U. S. 2,386,416, Oct. 9. The combination of a container having a centrally disposed element formed with one or more openings therethrough, contained elements disposed in said one or more openings, frangible closure elements secured to said named element in closure relation to said openings.

Lipstick Holder, H. L. Apfelbaum (to Victor Metal Products Corp., Brooklyn, N. Y.). U. S. 2,386,417, Oct. 9. In a lipstick holder, an outermost shell having a top opening and having a longitudinal groove in the inner surface thereof extending part way through the thickness of the shell whereby the outer surface of the shell remains imperforate, with an intermediate shell provided with a pair of diametrically opposed gear members.

Container for Blasting Caps, A. R. Ely & R. B. Smith (to Hercules Powder Co.). U. S. 2,386,546, Oct. 9. A package of fuse blasting caps comprising in combination a plurality of open-end fuse blasting caps having long longitudinal axes and stacked together with their longitudinal axes in parallel alignment; a rectangular box of flexible sheet material entirely enclosing the caps and having a bottom, sides and a top portion, said top portion being adapted to provide a longitudinal opening with a long axis parallel to the longitudinal axes of said caps and of a size sufficient to permit lateral discharge therethrough of one of said caps.

Closing Machine, N. Geertsens (to American Can Co., New York, N. Y.). U. S. 2,386,787, Oct. 16. In a can closing machine for crimping can covers into sealed position onto can bodies, the combination of a crimping ring member having an inner tapered surface, a crimping chuck member disposed within said crimping ring member

in spaced relation thereto, and having an outer correspondingly tapered surface disposed in substantial and permanent parallelism.

Jar Capping Apparatus, J. Hohl & O. Bjering (to Owens-Illinois Glass Co.). U. S. 2,386,797, Oct. 16. Apparatus for assembling jars and caps comprising an inclined chute providing a guideway for the caps, stops fixedly connected to the chute at the lower end thereof and in a position relative thereto to arrest the caps in their downward movement.

Bottle Carrier, G. H. Hutaff, Jr., Wilmington, N. C. U. S. 2,386,859, Oct. 16. A bottle carrier comprising a base plate formed at its opposite outer edges with openings for the accommodation of beaded bottles or the like, upward extensions on the base plate, and a handle connected to the extensions and bridging the space therebetween.

Bottle Cap and Release Therefor, G. H. Hutaff, Jr., Wilmington, N. C. U. S. 2,386,860, Oct. 16. A bottle cap and release therefor comprising a sheet metal cap having a top and crimped securing flange, combined with a release device comprising a pull member, an elongated flexible shank extending therefrom adapted to extend downwardly around and up into the cap adjacent to the flange thereof and an anchoring portion at the end of said flexible member.

Box Opener and Dispenser, W. E. Neilson, Jr., & C. C. Tinkey, Yosemite National Park, Calif. U. S. 2,386,877, Oct. 16. A carton opener and dispenser comprising a plate having an aperture, a cover closing said aperture, a channeled cutting member having horizontal and vertical cutting edges secured to the lower face of the plate, and means carried by the cover for receiving and retaining the cut out portion of the box.

Carton and Carton Blank, C. J. Meitzen, Wauwatosa, Wis. U. S. 2,386,905, Oct. 16. In a foldable carton having hingedly connected bottom, side and end walls, said side walls having extension sections foldable into re-enforcing relation to the end walls, in combination with a bar extending along the bottom of the carton, arms connection with said bar extending upwardly at the ends of the carton in a position to retain said sections folded upon the end walls of the carton, and hook means at the top of said arms releasably engaged over the wall of the carton.

Seat-Cover Package, L. Clark (to Protecto Products Co., Inc., Pomona, Calif.). U. S. 2,387,059, Oct. 16. A package of seat-covers comprising an envelope having front and rear walls which converge from a lower base end in the direction of an upper edge and forming a container substantially triangular in transverse vertical cross-section.

Cover Construction for Containers, J. R. Richards & C. W. Evert (to Downing Box Co., Milwaukee, Wis.). U. S. 2,387,184, Oct. 16. In a container having side and end walls, said end walls having downwardly extending upper edge slots, complementary cover members hinged to said side walls and foldable toward one another over the container.

Sheet Folding, J. W. Cordell, Oklahoma City, Okla. U. S. 2,386,933, Oct. 16. A combination envelope and voting ballot comprising a single sheet body blank, creased, cut and folded to form: a central panel, a second panel formed at one edge

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Many shippers learned the great value of better packaging methods, as a result of Government requirements for packing War materials. Shippers who value the goodwill which results from good packaging will continue to use these methods to increase sales.

A valuable adjunct to good shipping practice is the Packing List Envelope Protector.

Let Fabco Packing List Envelope Protectors continue the good work of QUICK CONTENT IDENTIFICATION.

WE OFFER—

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- (2) Products fully meeting all specifications.
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Sizes Overall— $5\frac{3}{4}" \times 7"$, $6" \times 8"$, $8" \times 11"$, $10\frac{1}{2}" \times 13"$.

Material—.080" weather proof asphalt composition board.

Packing—Cartons.

Lettering—Letters indented by steel die.

Dishing—To receive envelope containing shipping list.

This type is widely used, and meets specifications of all Armed Forces, and commercial requirements. Wide nailing flange and character of material facilitates nailing.



FLAT LETTERED TYPE—→

←DISHED TYPE



Sizes—Any size available—standard sizes 3x6, 3x10, 4x6, 5x6, 5x7, 5x9, 7x10, 8x11, 11x14.

Packing—Cartons, up to 8x11—over 8x11, steel banded bundles of 100.

Lettering—Letters indented by steel die.

***Material**—.070" and .080" weather proof asphalt composition board. This type is less costly than dished style, and as it also meets specifications, is frequently used in substitution of plywood, or metal protectors—or in cases where dished type is not available in required sizes. Lettering may be omitted, where special stencilling is needed.

***Thicknesses**, other than these standards are available when specified.

Governmental Directive requires Packing List Protectors. If any of your shipments for the Army, Navy, Signal Corps or any of the armed forces go overseas, one packing list must be attached inside the packing case and two lists must be attached outside, on all containers that hold items of more than one kind.

We recommend the continuance of this practice for all Export shipments, as well as best practice for Domestic shipments.

Asphalt Composition Board is furnished by us specially fabricated in discs, die cut shapes, pressed forms, slotted separators, cylindrical forms, etc. Frequently used as substitute for critical fibre boards.

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of said central panel and adapted to be folded over said central panel, a gummed edge portion carried by the free side edge of said second panel for sealing same.

Pour-Out Finishes for Containers, C. Chew & R. H. Levis II (to Owens-Illinois Glass Co. a corporation of Ohio). U. S. 2,387,213, Oct. 16. An applicator for applying a coating material to an exterior surface portion of a round container, said applicator including a spindle rotatable about its axis, a centering pin carried thereby for entering the neck of the container and holding the latter centered.

Cone Marking Machine and Method, C. K. Dunlap & L. B. Stogner (to Sonoco Products Co., a corporation of South Carolina). U. S. 2,387,248, Oct. 23. A method of color banding a plurality of hollow cones interested to form an elongated stick of cones, comprising advancing said stick longitudinally and intermittently to a color banding station.

Container, W. B. Johnson, U. S. Army, Easley, S. C. U. S. 2,387,270, Oct. 23. A container including a top portion having top wall, an inclined wall and an inwardly spaced horizontal wall, a plurality of handles and each having one terminal thereof secured to the top wall and secured to the upper terminal of the inclined wall.

Method of Forming Cardboard Boxes, C. F. Klein & E. Huber (to Frankenberg Bros., Inc., Columbus, Ohio). U. S. 2,387,272, Oct. 23. In the production of folding carton blanks from a sheet of paperboard having a sheet of a lining material thereto over substantially its entire area achieved by means of a heat-softening adhesive.

Coating Apparatus, A. L. Kronquest (to Continental Can Co., Inc., New York, N. Y.). U. S. 2,387,273, Oct. 23. In an apparatus of this type, means for delivering flowable material to an article to be contacted by said material, means for maintaining the flowable material under pressure necessary to effect delivery of the material, a valve interposed between said two means for controlling delivery of said material.

Method of and Apparatus for Producing Valved or Sleeved Bags, H. E. Lee (to St. Regis Paper Co., New York, N. Y.). U. S. 2,387,274, Oct. 23. In forming a sleeve valve bag, the steps which comprise separating the walls of the open end of a bag adjacent one corner of the bag, introducing between the separated walls a spreader and moving the spreader in a diagonal direction into the bag until the corner of the bag is substantially straightened against the spreader.

Carton, J. W. Cox (to Self-Locking Carton Co., Chicago, Ill.). U. S. 2,387,314, Oct. 23. A knock-down cellular carton, comprising oppositely arranged side walls, cross partitions attached at their ends to said walls in a series, and hinged above their centers so that they swing downwardly.

Container, C. H. Goodyear (to Fibreboard Products, Inc., San Francisco, Calif.). U. S. 2,387,325, Oct. 23. A container comprising opposed ends and opposing lateral walls, a flap foldably connected to one of said opposing walls to form a third wall, a sealing flap foldably connected to the other of said opposing walls and overlying the third wall, said sealing flap having spaced lines of weakness to form an intermediate tear strip and an outer fastening strip.

Means for Completing the Packaging of Berries, G. Harrison, Ivanhoe, N. C. U. S. 2,387,326, Oct. 23. A cover for a berry box having a ribbon type reinforcing rim around the top of the body of the box comprising, a frame having four sides with V shaped acute angular portions initially cut out at the corners, the apex of the V extending toward the central axis of the frame.

Container with Handle, A. C. Jacobs, Chicago, Ill. U. S. 2,387,329, Oct. 23. A container comprising a compartment section, a cover section, and a top portion connecting said compartment and cover, said top portion having a crosswise slit therein extending its full width.

Soap Dispenser, E. J. Scarry, Denver, Colo. U. S. 2,387,359, Oct. 23. A surgeon's soap dispenser comprising: a cabinet having front and back walls, there being a window in the front wall; means for hingedly mounting the front wall, with soap reservoir in said cabinet below said window, with diaphragm pump in said cabinet below said reservoir.

Method of Constructing Containers, R. Guyer & R. J. Hennessey (to Waldorf Paper Products Co., St. Paul, Minn.). U. S. 2,387,392, Oct. 23. The method of constructing a non-collapsible paper container having oppositely facing curved walls.

Method of Sealing Containers, A. P. Grabus, Jr., & A. H. Warth (to Crown Cork & Seal Co., Inc., Baltimore Md.). U. S. 2,387,439, Oct. 23. The method of sealing a container by means of a cap engageable with the container and having therein a separable disc provided on its exposed face with a film of thermoplastic adhesive, said container having a lip defining a mouth, said method comprising heating the container lip from an external source to a temperature at which the adhesive will soften.

Packaging Apparatus, I. J. Lundal & C. F. Weinreich (to Cherry-Burrell Corp., Wilmington, Del.). U. S. 2,387,452, Oct. 23. A packaging device comprising, in combination, lifting mechanism for controllably lifting a receptacle to a predetermined position, means for varying the speed and capacity of the lifting mechanism, a delivery conduit adapted to project into the open end of the receptacle and deliver material thereinto.

Box, J. H. Vineberg, Ottawa, Ontario, Canada. U. S. 2,387,482, Oct. 23. A box composed of an inner member and an outer member, said inner member having a top section, side sections, end sections, flaps along the side edges of the end sections, and a handle formed from the material of said top section substantially in the center thereof.

Apparatus for Connecting Plies of Thermoplastic Material, J. Custers, Gladbach-Rheydt, Germany (vested in the Alien Property Custodian). U. S. 2,387,566, Oct. 23. A device for adhering plies of thermoplastic materials, comprising a frame, two rotatable rollers mounted on the frame, a wedge-shaped heating element positioned in alignment with the entrance side of the rollers into the wedge-shaped space formed by said rollers for contact with the opposed surfaces of the plies.

Nursing Unit, H. H. Ganson (to Hygeia Nursing Bottle Co., Inc., Buffalo, N. Y.). U. S. 2,387,573, Oct. 23. A nipple for nursing bottles, comprising a body having

a base flange for flatwise engagement with the top edge of the bottle, and having a tab projecting therefrom in the plane thereof.

Packaging Machine, S. R. Howard (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U. S. 2,387,585, Oct. 23. In a package machine devices for operating in successive cycles in substantially predetermined time intervals equipped with loading, weighing, container moving apparatus, which mechanism permits continuous operation.

Post Seal for Battery Containers, H. L. Loenig, W. C. Billheimer, H. T. Havlick (to Willard Storage Battery Co., Cleveland Ohio). U. S. 2,387,590, Oct. 23. In a battery, a container at least part of which is formed from a thermoplastic resinous material, a terminal member of the battery extending into an opening in the plastic portion of the container, and a seal for said terminal member.

Envelope Fastener Machine, A. Novick (to F. L. Smithe Machine Co., Inc., New York, N. Y.). U. S. 2,387,605, Oct. 23. A machine for attaching button fasteners to envelopes, comprising a continuous conveyor.

Display Device, W. T. Bouchell (to The Lord Baltimore Press, Baltimore, Md.). U. S. 2,387,639, Oct. 23. A device combining a member having a recess therein adapted to seat an article, an article seated in the recess, a holding band of sheet material extending about the article with its ends extending through the recess with an enlarged integral tab on one of said ends having an integral part bent to extend beneath said member on one side.

Dispensing Container, W. T. Bouchell (to The Lord Baltimore Press, Baltimore, Md.). U. S. 2,387,640, Oct. 23. The combination of an inner container, an outer container having a plurality of flaps for closing an end thereof, two of said flaps having registering apertures therein to permit access to said inner container, and adhesive for adhering the portion of the inner container about the aperture to the inner apertured flap to facilitate perforating the inner container, and to retain said perforation in alignment with said registering apertures and a member slidably mounted between said flaps for opening and closing said apertures.

Apparatus for Cutting Strip Material, E. A. Davis (to the B. F. Goodrich Co., New York, N. Y.). U. S. 2,387,650, Oct. 23. Apparatus for cutting strip materials to length, said apparatus comprising a pair of feed rolls feeding the strip, and means for driving strip forward or reversing same, and cutting means.

Liquid Dispensing Means, L. G. Bates, Shaker Heights, Ohio. U. S. 2,387,699, Oct. 23. A liquid dispenser, comprising a combined shipping and pouring closure means adapted to be placed on a liquid container and having a liquid conduit and an air conduit with external openings adjacent.

Packing Box for the Heat-Treatment of Ferrous Material, F. A. Endress (to Tuff-Hard Corp., Detroit, Mich.). U. S. 2,385,407, Sept. 25. A packing box structure for the heat treatment of ferrous material comprising separable complementary box sections, each of said sections having longitudinally extending fork receiving tunnels secured along a longitudinal external corner edge.



Special Designs To meet special needs of certain

industries, H & D Package Engineers have utilized the strength, durability, economy and light weight qualities of corrugated board for many types of products. The unique shipping box illustrated combines efficient storage, quick set-up, easy handling and adequate protection with distinctive appearance. Note how the octagon angle construction provides high rigidity and how well the company's trademark is printed on the smooth exterior surface. However unusual your product may be, H & D can prepare a special box to meet your requirements.



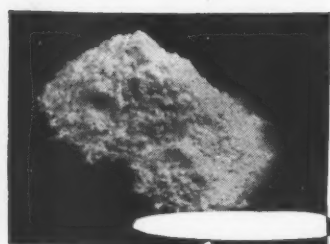
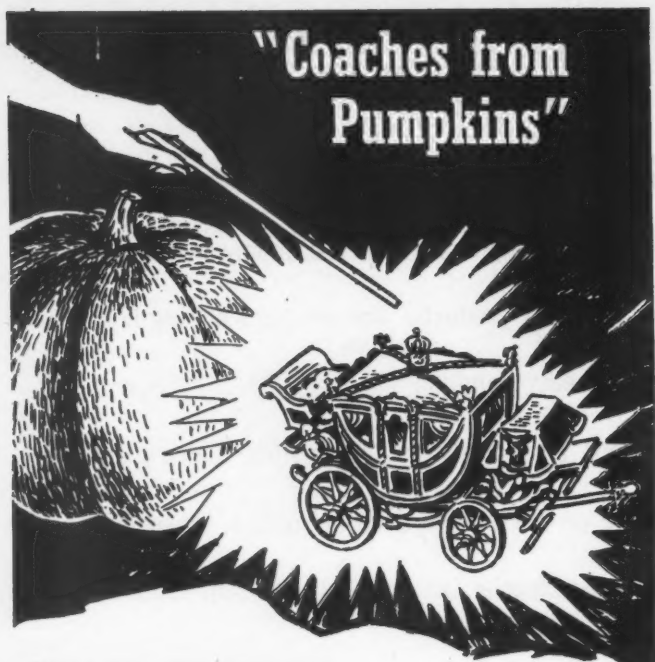
H & D Post-War Packaging Idea OCTAGON BARREL

The octagon barrel is an example of package engineering at its best. A problem was presented and H & D Package Engineers solved it with a package that not only met the necessary requirements but also provided a number of "extra" values in addition. H & D's book, "How to Pack It" is full of packaging ideas for every type of product. Send for your copy —today.

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Plants and people

(Continued from page 164) N. J., as general manager. During his 4½ years at Wright Field, Lt. Col. Hardy was responsible for the research and development of materials and procedures for the preservation of all aeronautical equipment from corrosion, mold, fungus, and mechanical damage. As general manager of the Protective Coatings Corp. he will be responsible for the development of Aqastop case liner materials and procedures for the protection of equipment during the postwar period.

The Fonda Container Co., Inc., has announced the appointment of Leonard T. Mygatt as general sales manager and George E. Soyka as package development engineer. Mr. Mygatt was formerly with the Sutherland Paper Co., and Mr. Soyka has had extensive paper research experience in Czechoslovakia. The company's plant at St. Albans, Vt., is being enlarged to provide 50% additional floor space.

Robert Gair Co., Inc., announces the appointment of Edward J. McNally as art director. Mr. McNally was formerly with the Dixie Cup Co.

Spence Wildey, well-known industrial and package designer and art editor of *The Woman's Home Companion*, died on Oct. 31, at the age of 39.

Wayland H. Evans, founder and president of Evans Associates, Inc., died on September 29.

For your information

(Continued from page 166) merchandising experience. The book should provoke additional interest in the problem of streamlining distribution costs through quicker and more efficient distribution and merchandising of products to the consumer. Copies are available without charge from The Paul Sayres Co., 75 West St., New York.

The N. Y. State Agricultural Experiment Station has just published a **Sanitary Code**, containing definitions and interpretations for guidance of manufacturers of paper packaging materials and containers for perishable foods. The Code is based on the result of investigations carried out at the Experiment Station, and was prepared in cooperation with a group of public health officials. Requests for copies should be directed to J. R. Sanborn, Division of Bacteriology, Cornell University, Geneva, N. Y.

Announcement was made at the annual convention of **Direct Mail Advertising Assn.**, Oct. 19, New York, that the **Phoenix Flame** published by Phoenix Metal Cap Co., had been awarded a special plaque for the most effective use of house publications during 1945.

The Hinde & Dauch Paper Co.'s latest **Little Packaging Library** booklet is entitled **How to Ship in Weatherproof Corrugated Boxes**. Copies may be obtained from Paul Meelfeld, The Hinde & Dauch Paper Co., Sandusky, Ohio.

A tremendous new market for packaging development in Cuba was predicted by Senor Raphael Oriol, Cuban representative of Milprint, Inc., at a recent meeting sponsored by the company's export division. Mr. Oriol based his statement on the trend to brand selling, a recent innovation in Cuban food merchandising. Another important factor contributing to the increase of packaging activities, according to Mr. Oriol, is the new government legislation which permits the importing of new machinery duty free for the next three years. Noting that many Cubans are now in the United States purchasing automatic packing equipment, Mr. Oriol stated that manufacturers and businessmen in his country are intensely interested in any type of packaging and

plastics

that give your products . . .

show window beauty!



Take a look at plastics from your customers' point of view.

Sure, your product is finally sold on the basis of its own merit. But intelligent merchandisers recognize that bright packaging has a lot to do with sending sales curves upward.

That's why it will pay you to look to plastics produced by Dow for better packaging. Your customers will. They'll be quick to spot the "molded beauty" of Styron and the lightness and toughness of Ethocel Sheeting. These plastics are worthy companion pieces for the finest products.

Ethocel Sheeting

PRESENT AND POTENTIAL USES: Containers of all types, sizes and shapes for jewelry, cosmetics, and other products. Also used for displays, advertising novelties, greeting cards, envelopes, labels, decalcomanias, electrical insulating tape, ice cube trays, lighting fixture covers, lamp shades and similar products.

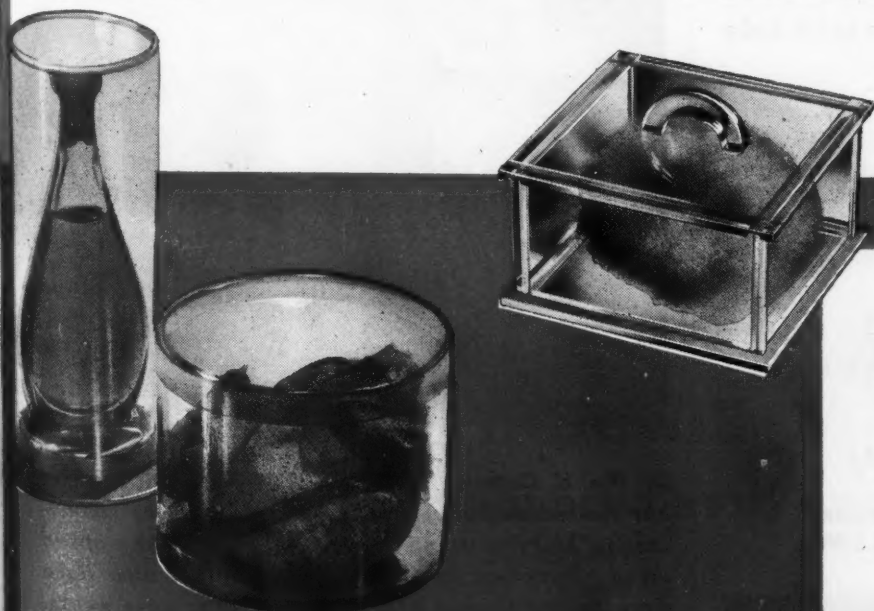
PROPERTIES AND ADVANTAGES: Combines toughness with flexibility; tensile strength 10,000 lbs. per sq. in.; elongation, 30%; folding endurance (1 kg; M.I.T.), 2,750 (.002"). Retains these characteristics and transparency over long periods despite handling. Resistant to alkalies and grease. Withstands dry heat to 220° F. continuous; to 275° F. intermittent. Resists cold. Easily fabricated by drawing, folding and scoring. Can be joined by adhesives, beaded, printed, crimped, stapled and sewed.

STYRON

PRESENT AND POTENTIAL USES: Cosmetic and pharmaceutical boxes and containers of all types; funnels; bottles; closures; food handling equipment. Also used for other products: jewelry; advertising items; refrigerator parts; pens; pencils; chemical apparatus; lenses; decorative objects, trim and many other uses.

PROPERTIES AND ADVANTAGES: Beautiful, clear, translucent or opaque; resistant to acids and alkalies; stable at low temperatures; broad color range; low specific gravity, providing more moldings per pound; low water absorption, good dimensional stability.

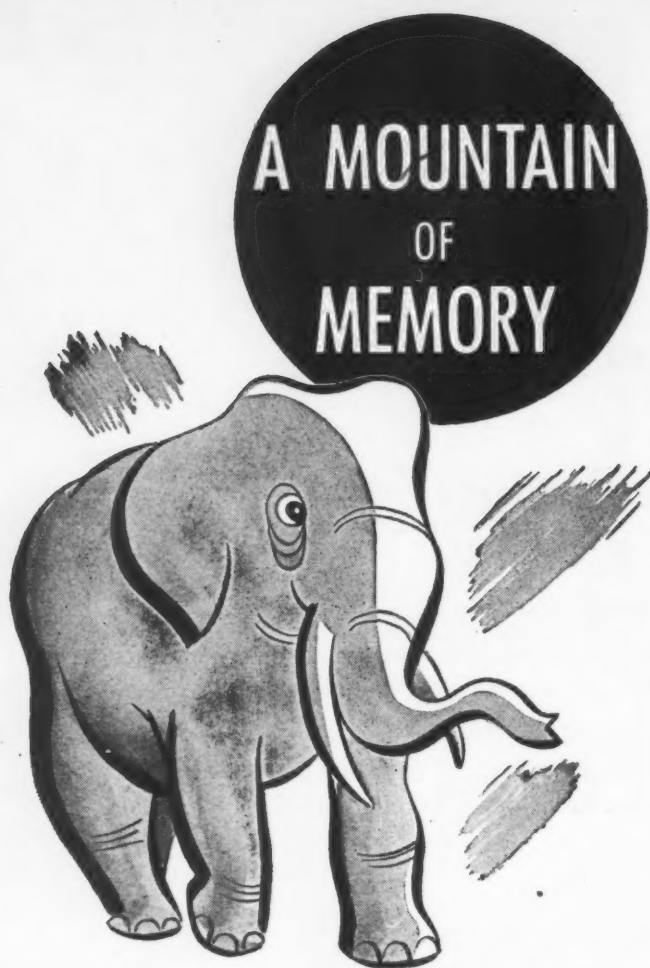
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CHICAGO, 228 N. LaSALLE PHONE CENTRAL 1798

that the market potential for American packaging methods, experience and materials is almost unlimited.

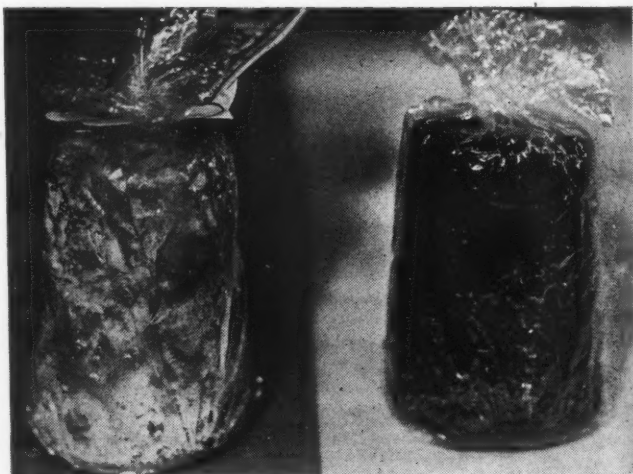
A revised and enlarged edition of the booklet **Tenite Extrusion**, which includes a detailed description of the extrusion of sheeting with the use of a circular die, has been issued by **Tennessee Eastman Corp.** The booklet describes how Tenite is formed into strips, tubes, rods, monofilaments, sheeting and various profile sections by the dry-extrusion process. Copies of the new edition may be obtained from the company at Kingsport, Tenn.

Recognition of the importance of packaging was apparent in the conference of the **Assn. of Canadian Advertisers** held at the **Royal York Hotel, Toronto, November 7, 8 and 9.** Under the chairmanship of **Hedleigh T. Venning**, general sales manager of **Shirriff's Ltd.**, a panel of Canada's leading exponents of packaging discussed the merchandising values and advertising possibilities of packages for an entire afternoon session. The panel consisted of **T. L. Anderson** of **Cockfield Brown & Co.**; **D. V. Reddick**, general merchandising office, **T. Eaton Co.**; **J. E. Sampson** of **Sampson Matthews Colorcraft Ltd.**; **Charles W. Stephens**, sales manager, **Dominion Paper Box Co., Ltd.**, division of the **F. N. Burt Co.** Guest speaker, **C. W. Browne**, editor-in-chief of **MODERN PACKAGING.** Other speakers from the United States appearing on the **ACA** program were **Glenn Griswold**, editor of **Public Relations News**; **Paul Ellison**, director of advertising and sales promotion, **Sylvania Electric Products, Inc.**, and **A. W. Lehman**, managing director of **Advertising Research Foundation**, New York.

A new line of "anhydrous foods" will shortly be introduced—as soon as the packaging problems have been properly solved—by **American Home Foods, Inc.**, it was announced recently by **H. W. Roden**, president of that company. **Clarence Birdseye**, of quick-frozen foods fame, has been devoting his entire attention of late to the development of anhydrous foods, the processing of which has now been perfected. The packaging involves materials which afford protection and sales appeal.

CORRECTION: Clarifying the credit mention on the **Tenderleaf Tea** floor stand item in **Display Gallery** of the October issue (p. 126), **The Container Corp. of America** developed the floor stand. **Lutz & Sheinkman** manufacture it.

Electronics eliminate bread mold



Dr. Wm. H. Cathcart, head of **A & P** bakery laboratories has evolved method of controlling bread mold by "broadcasting" high frequency electronic currents through wrapped bread. Untreated brown bread (left) molded after three days, treated showed no sign of mold after three weeks.

THE *Heart* OF YOUR PACKAGING DEPARTMENT



TRIANGLE
ELEC-TRI-LINE SYSTEM

**... for high speed, automatic
packaging that saves time and labor, reduces costs**

Here you have it . . . the speedy, automatic packaging system that completely revolutionizes whole packaging departments! This Triangle Elec-Tri-Line System weighs and fills dry products into bags, cartons, cans or bottles with amazing speed and accuracy.

It simplifies packaging operations, reduces labor costs, speeds production. Packages are temptingly filled, products are handled so gently that even the most delicate can be packaged without breakage.

Weights are so accurate that—on large scale operations—thousands of dollars of material can be saved yearly.

Triangle Elec-Tri-Line Systems will automatically weigh and fill 80 or more packages per minute. They are used for packaging crackers, cookies, foods, candies, grocery staples, coffee, etc.

Perhaps one of these Elec-Tri-Line Systems would be just right for your packaging department. Find out. Write today for full information.

for precision weighing
look to Triangle

TRIANGLE PACKAGE MACHINERY CO.

907 N. SPAULDING AVE., CHICAGO 51, ILL.

SALES OFFICES IN: NEW YORK • LOS ANGELES
DALLAS • SAN FRANCISCO • DENVER

CLEVELAND • BIRMINGHAM • MEMPHIS •
NORTH QUINCY, MASS., • MONTREAL, CANADA



IF YOUR PRODUCT COULD TALK

If your product could talk, no doubt it would say "Don't fence me in where nobody can see me. If you must package me, please use a container that will protect me and at the same time let me be seen."

Nothing tops Lusteroid in filling these important requisites. These modern plastic vials and tubes are zephyr-light, yet strong, rigid, unbreakable. Their crystal-clear walls provide ideal display. Their wide color range gives the package designer welcome variety. And their printability eliminates label expense. You save money on packing and shipping, too. Sizes from $\frac{1}{4}$ " to $1\frac{1}{4}$ " in diameter and lengths up to 6". Cork, slip-on or screw-cap closures.



Write for full details today.

LUSTEROID CONTAINER CO., INC.

Formerly Lusteroid Division of Silcocks-Miller Company

Office and Factory

10 W. PARKER AVENUE, MAPLEWOOD, N. J.
MAILING ADDRESS: SOUTH ORANGE, N. J.

Dried milk . . .

(Continued from page 113) milk after the war. A larger proportion of the grocers said they would not sell nonfat dry solids.

About one-half of the grocers who expressed an opinion about the postwar prospects for dry whole milk believe that the market will be less than it was at the time of the survey. A slightly lesser number believed that the market will be either as great as now or greater. About one-half of those grocers who had sold nonfat dry solids believed the postwar market would be the same as now or larger. However, the sales relative to that of dry whole were low at the time of the survey.

Approximately a fifth of the housewives who had bought dry milks said they would buy more packages if the price were five cents less per package. However, the price probably did not prevent the purchase of dry milks, as five-sixths of those who had not bought any but who knew it was for sale did not know the existing price. Very few housewives who knew it was for sale and who also knew the price said they would buy if the price were lower.

One-third of the independent grocers interviewed indicated that they would sell dry whole or nonfat dry milk solids at the same mark-up received for fluid milk if the turnover remained as it then was. Reasons were the factors of convenience, low cost of refrigeration, lack of bottle breakage costs and high unit value in proportion to bulk. No chain-store executive said he would sell for the same mark-up as received for fluid milk with the present turnover. Practically all of the grocers interviewed, both chain and independent, said that they would sell dry whole or nonfat dry at the same mark-up they received for fluid milk if turnover were increased to that of fluid milk.

Conclusions

This study indicates that consumer acceptance of dry milk has been neither an unqualified success nor an unqualified failure. For the prospective distributor, a policy of aiming for special markets is indicated. This would mean emphasizing distinctive qualities, such as the economy and convenience of both types of dry milk for cooking.

Favoring the development of special markets is the suitability of the product for campers, labor gangs, and other persons remote from sources of fluid milk supply. The nonfat solids are suited to needs of persons dieting to lose weight or to digestive systems sensitive to fats. Economy of nonfat solids suggests use in school lunch programs. Reduction in the price of dry whole milk would enable it to be used as an

TABLE IV—LENGTH OF TIME REQUIRED BY HOUSTON HOUSEWIVES TO USE ENTIRE PACKAGE OF DRY MILK AFTER OPENING

Time period	Had bought dry milk	
	Number—253	
	Per cent	
As soon as opened	19	53
Less than 1 week	34	
1-2 weeks	22	
3 weeks or more	7	
Had not finished package	12	
Did not know	2	
Not ascertained	4	
	100	

**"Packages—Your
Packages—will
be increasingly
examined and
discussed by
the Public!"**

Quoted from official bulletin sent to
members of Grocery Manufacturers of
America, Inc., by Paul S. Willis, President



Paul S. Willis

President of Grocery Manufacturers of America, Inc.

Pointing

THE IMPORTANCE OF PERIODICAL REVIEW OF YOUR PACKAGING!

Traver experts will do the job for you—without obligation. Our staff of engineers, technicians, and sales-minded designers will give you our recommendations on product protection and display; descriptive information; and the last word in packaging sales-punch!

**CONVERTORS OF
CELLOPHANE,
GLASSINE, FOILS
and PROTECTIVE
PAPERS!**

**All you need do is send your
Present Package to us in care of Dept. MP12-45**



**358-368 West Ontario St., Chicago 10, Illinois
Offices in Principal Cities—Reply to Chicago**

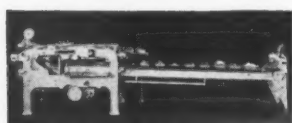
PACKAGING THAT SELLS!

Isn't this
the best way



to package sausage
for self-service?

Based on the recent experience of our engineers packaging fresh produce for self-service, *this sausage package has everything!* It's appetizing, sanitary, strong; it's properly labelled. And because most of the packaging operations are automatic, *the cost is amazingly low.*



● The "Oliver" can be obtained with a 6-foot, 9-foot, or 12-foot infeed conveyor. It automatically folds and feeds U-boards and flat cards. Underfold attachment available. Quickly adjusted without change of parts.

● The "Oliver" labeller uses thermoplastic labels in roll form, and imprints essential information on labels just before application.

This advertisement briefly shows how the "Oliver" is easily adapted to solve a complex packaging problem. If the packaging of your product requires a versatile automatic machine, call on "Oliver."

OLIVER MACHINERY CO., GRAND RAPIDS 2, MICH.



The trend to pre-packaged meats for self-service is strong. And for their packaging, the "Oliver" Wrapping Machine is the logical choice. You can adjust it for wrapper length and package size in a minute or two. It handles the widest range of sizes. And for labelling, and imprinting the label with title, code, weight and price, the "Oliver" Roll-Type Labelling system is *the only practical method.*

economical source of fluid milk. Baby-food uses could be developed for areas in which supplies of pasteurized milk are not assured.

Although wartime conditions in Houston, such as greatly increased purchasing power, increased per capita consumption of fluid milk, shortages of canned and fluid milk, and a 22% increase in the city's population were propitious for the use of dry whole milk as a substitute for fluid milk for drinking purposes, a relatively small part of the dry milk sold was used for this purpose. This indicates that after the war, when these conditions return more nearly to normal, the sale of dry milk for other than special uses in any large volume would necessitate a reduction in the price of dry whole milk to a price noticeably less than that of Grade A pasteurized milk in the same store. But the reaction of those consumers who did use dry milk for drinking purposes, although not generally favorable, indicates that dry whole milk will have a place as a beverage in some homes where fluid milk is scarce and prices are high. This points to eventual possible expansion of milk consumption through the sale of dry milk in such areas.

That certain definite advantages were gained by distributors in marketing dry milks under a nationally known brand name is also indicated. A well-known brand apparently helped in generating confidence on the part of the housewives in making their initial purchase of the new products. The remark was heard several times that "X company has always distributed a good product. People often make the initial purchase because they know X company would not brand a product unless the quality was good."

Testing case liners . . .

(Continued from page 154) borderline liners whose effectiveness was questionable. We prepared a table (Table I) based on the test results shown in the chart. Each liner was scored for the number of times the various test results appeared above the line Y-Y. Thus, a liner whose test results lie above the line in each column was given a score of 6; a liner with four results above and two below the line was scored as 4; a liner with all results below the line had a score of 0.

In Table I the liners having a score of 6 include those reported as performing excellently for the Armed Services. Those having a score of 5 and 4 include liners reported as giving satisfactory service in some instances and borderline cases in other instances. Liners having scores less than 4 include all those reported giving unsatisfactory performance. For the purpose of analysis, the liners scoring 6 points were placed in Group 1, those scoring 5 and 4 points were placed in Group 2, and those scoring less than 4 points were placed in Group 3. Checking the physical properties of the material in each group, we obtained the following results:

1. Each group contains material that is either of duplex or triplex construction and is either reinforced or unreinforced.
2. All materials in Group 1 are creped. All materials in Group 2 (except one) are creped. The exception is a creped sheet combined with two uncreped sheets.
3. All materials in Group 3 are either uncreped or are combinations of creped and uncreped sheets.

In view of the above results, we conclude that stretch or extensibility is a required characteristic in a satisfactory case liner and that every sheet used must be creped.

KEEPING TRADE-MARKS ALIVE



GENERAL ELECTRIC COMPANY'S trade-mark is its guarantee of quality and value. That is true of YOUR trade-mark, too. Keep it alive and prominent at points of purchase where your products will be available . . . where the identity of your products should be maintained. Extensive wartime and postwar shifts of population make this imperative. We can help you maintain vital continuity of trade-mark recognition.



FORBES

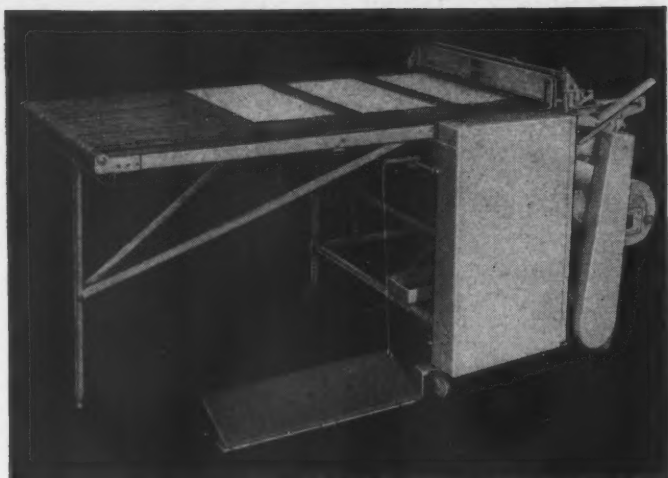
NEW YORK CLEVELAND

LITHOGRAPH CO.

P. O. Box 513 Boston 2

CHICAGO

ROCHESTER



CORLEY-MILLER SHEETER-GLUER



Cuts, Glues, and Conveys Sheets or Bands to Wrapping Crew

THE Corley - Miller "Sheeter-Gluer" glues, cuts, and conveys bands or sheets to the fingertips of one or more operators. Machine can be equipped with foot lever for individual sheets or *variable speed drive* can be furnished to automatically control the number of sheets delivered per minute.

In addition to wide use for sheeting, banding, wrapping, bundling, and window forming, the "Sheeter-Gluer" can also be furnished with attachments for: (A) Pre-sealing printed labels or bands to the cut sheets. (B) Cutting two or more small rolls simultaneously. (C) Making reinforced sheets by heat or glue sealing one sheet over another. (D) Combination slitting, cutting, and stacking. (E) Spot-cutting printed rolls.* Quick delivery possible.

* With aid of electric eye.



MACHINES FOR: WRAPPING, BAGMAKING, BAG & CARTON FILLING, BAG CRIMPING OR CLOSING, GLUING & SHEETING SANDWICH MAKING



14 South Clinton Street, Chicago 6, Illinois

Coffees . . .

(Continued from page 123) seal adds another merchandising note to keep brand name before the consumer when she opens the package.

There is news today, too, in the packaging of regular coffees. General Foods announced during the past month that Maxwell House in the old familiar vacuum-packed cans is beginning to make its reappearance on grocery shelves. Coffee cans have been a wartime casualty since early 1942. However, the company said that metal cans would replace only a portion of the present pack in glass jars which will be continued.

At the same time, General Foods announces an improved label for a familiar old blend of rare coffees—Yuban. Purpose of the new design is to retain enough elements of the old label to maintain a familiar face, but at the same time to create better representation through the label of the high quality coffee contained in the jar. More styling has been given to the label. Though the familiar oval has been retained, maroon, gold, red, yellow and white inks have been combined to suggest top quality in coffee blends.

CREDITS: Designs for Maxwell House, Yuban, G. Washington's and Café melo, Frank Gianninoto and Associates, New York. Sol Café design, James Harley Nash, New York. Filma-seals, Ferdinand Gutmann & Co., Brooklyn.

The engineering approach

(Continued from page 119) time packaging. Make it a policy, in presenting a packaging proposition, to offer a choice of two or three materials with a definite recommendation for one of them, based on comparative costs, the customer's equipment for filling, and the margin of incidence of punishment the package is likely to get.

4. *Use all the engineering brains you can get.* If a packaging firm, faced with a composite problem, doesn't attempt to cash in on the engineering knowledge, skills and know-how of the men hired by material suppliers and converters to help them, a big bet is being missed. Engineers working for the shipping container people, for example, have such a broad range of experience that they can always give us the right answer. We draw up the specifications of need. They give us containers to meet those needs—every time. Why should we learn their business? Ingenuity is the big thing converters have to sell, we believe. Therefore, we draw on their engineering brains. We have no intention of competing with the converters, but will buy their conversions when they fit our engineering needs and do our own converting only in highly specialized cases. But—and this is the packaging engineer's great advantage—we can view each part of the package and the procedure in relation to each other part and to the whole. We would not allow a soundly determined procedure to be tampered with just to accommodate the shortcomings of a certain conversion.
5. *Always blueprint specifications and procedures as soon as they are set.* That's a lesson we learned from war packaging. That's the purpose of package engineering. It gives the customer's packaging department a straight formula to train to and to work to. If materials change in cost, if larger or smaller quantities are found




1. First operator lays underwear shirt diagonally on Cellophane sheet with three glued corners.



2. Second operator overlaps two corners of Cellophane sheet, completing first fold.



3. Third and fourth operators each fold one end of wrapper, completing corner to corner wrap.



Surprise package

...made that way with

PAREZ* 607

Cyanamid's Melamine Paper Resin

TRY IT!

See for yourself the many
PRODUCT and PACKAGING IDEAS
it offers **YOUR FUTURE PLANS...**

WAR-PROVEN USES...

Maps and Charts
Export Cartons
Blue Print Papers
Carton, Crate & Barrel Liners
Multi-Wall Bags
Lens Wiping Materials

TIMELY PEACE-TIME PRODUCT IDEAS...

Shopping Bags
Ice Cream Containers
Kleenex and Paper Towels
Frozen Foods
Shipping Labels & Tags
Twisting Papers
Coating Raw Stocks

*Reg. U S. Pat. Off.

**Trade-mark of American Cyanamid and Chemical Corporation applied to its synthetic resins for use by the paper industry. The processes under which PAREZ is applied in the production of wet-strength paper are covered by U.S. Patents Nos. 2,291,079; 2,291,080 and 2,345,543 and U.S. Patent Application Serial No. 435,032.

Among the things that Mr. and Mrs. Consumer may look forward to will be new surprises in frozen foods. For new ways have been found to capture and hold that garden-fresh flavor of vegetables and fruits—and the unique savour of meats and fish. But one of the most interesting of the surprises will be the packages in which these foods will come. Look at the inner wrapper. Now ... it is "high wet-strength" paper—paper that is extra strong when dry and will not lose its strength and fall apart even when soaking wet! Thus it gives a new measure of protection to foods ... new convenience to the user ... a real selling feature for the producer and retailer ... *and a new profitable specialty for paper-makers!*

"High wet-strength" paper, which is also "wet-rub resistant", is now made by the use of a special synthetic resin developed in the Cyanamid Research Laboratories. Called PAREZ** 607 this resin imparts improved wet-and-dry strength to any type of paper, from paper-board to fine tissue, simply by adding the resin prepared under Cyanamid's patents in the regular paper manufacturing process. As a result, paper is today doing many of its old jobs better and also many entirely new jobs. Cyanamid's Paper Technicians are prepared to work with paper manufacturers interested in the proven potentialities of PAREZ to make paper do many of its old jobs better and find new fields of usefulness in serving your product and packaging paper needs.

American CYANAMID & Chemical Corporation

(A Unit of American Cyanamid Company)

30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

DISTRICT OFFICES: Boston, Mass.; Philadelphia, Pa.; Baltimore, Md.; Charlotte, N. C.; Cleveland, Ohio; Chicago, Ill.; Kalamazoo, Mich.; Detroit, Mich.; St. Louis, Mo.; Azusa, Calif.; Seattle, Wash. In Canada: Dillons Chemical Company, Ltd., Montreal and Toronto.

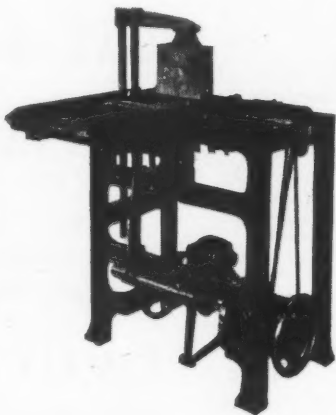
How Do Your PACKAGING COSTS Look Today?

Many plants are now reviewing the records of current civilian production costs in order to meet peacetime competition. The item of packaging is one cost which should be looked into.

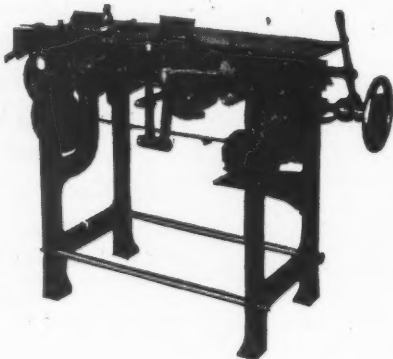
If you are still setting up or closing cartons by hand, it will pay you to investigate PETERS economical packaging machinery. These machines have helped cut costs and increase production for many plants. Why not learn how they can fit into your reconversion program.

Send us a sample of each size carton you are now using and let us make recommendations for your specific requirements.

This PETERS JUNIOR CARTON FORMING AND LINING MACHINE sets up 35-40 cartons per minute, requiring only one operator. After the cartons are set up, they drop onto a conveyor where they are carried to be filled. If you desire to handle several sizes of cartons, machine can be made adjustable.



This PETERS JUNIOR CARTON FOLDING AND CLOSING MACHINE closes 35-40 cartons per minute, requiring no operator. After cartons are filled, they enter machine on conveyor and are automatically closed. Can also be made adjustable to handle several different size cartons.



PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVENUE, CHICAGO, ILL.

necessary later on, he can adjust his whole setup to the new conditions with little trouble. It also helps us—because we don't have to draw on our memories when we run up against a similar problem in doing a job for a later customer.

6. *Supervise the customer's packaging line until it is functioning smoothly.* This could be a costly proposition for the packaging engineer, but once he has his specifications and blueprinted procedure, he need only supervise the line until the predetermined speeds and reject rates have been obtained. If it takes him more than a few days, his specifications must have been wrong.

As long as designers refuse to face engineering necessities, as long as each new material is promoted as a panacea for all packaging problems, as long as packaging men are kept out of the plants where the products to be packaged are manufactured, as long as salesmen are expected to provide a glib patter of engineering platitudes—just so long will packaging costs be too high and packages less effective than they could be.

War packaging took the packaging man right into the plant and the packaging engineer developed considerable stature as a result. Let us not lose that great advantage and that improved opportunity to do a better job. We certainly have a wider range of materials at our disposal than we would have expected six years ago. Now let's learn to use them—through the engineering approach.

We have a lot to learn yet: better anti-corrosion procedures, broader uses for anodizing, improved drying methods, new functions for floating barriers, gas packing in flexible materials, foolproof handling of powder packs, standardized inspection procedures and many more things.

We'll learn them faster if we use the engineering approach

Tags that tell . . .

(Continued from page 100) the possibility of some change in the minor details, but there must always be a well-organized plan to which all tags adhere.

Following is a check list of the essential points to be covered in planning a tagging program:

- I. Copy
 1. Identification
 - a. Trade name
 - b. Logotype
 - c. Copyright
 2. Selling points
 - a. Construction details (what the article is made of, how it is made)
 - b. Suggested uses
 - c. Length of service expected
 - d. Special features
 3. Instructions for care and usage
 - a. How to wash or clean
 - b. How to preserve finish or fabric
 - c. How to store
 - d. How to alter, adjust or regulate
 - e. How to assemble or install
 4. Institutional
 - a. Special standards and tests
 - b. Reputation for quality and value
 - c. Guarantees
 5. Quality gradation (Turn to next page)



The Eye Chooses

BEFORE THE MIND ACTS . . .

It takes the outside to sell what's inside! Be it beans or beauty cream, the day of the bulk sale went out with the cracker barrel in the general store.

The eye instinctively halts when it singles out a Warnercraft container. Naturally the many intriguing new materials will play an important part in this postwar race for attention. (Warner research leads in this direction) but the basic reason for Warner Brothers' superiority in the packaging field is the surpassing skill of resourceful Warner craftsmen.

They know materials — they know products — they know sales psychology and what makes people buy. All these are valid reasons why it is good sales and profit insurance to plan your drug, cosmetic and other product containers with Warner Brothers now.



Warnercraft Tekwood* is one of the many new packaging improvements developed by Warnercraftsmen for post-war use. Light in weight as cardboard, yet many times as strong, it is adaptable to any type of covering. It is especially suitable for boxes intended for re-use.

PATENT APPLIED FOR

*REG. U. S. PAT. OFF.

WARNERCRAFT

"THE FINEST WORD IN PACKAGING"

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.

THE WARNER BROTHERS COMPANY

Main Office and Factory: 325 Lafayette Street, Bridgeport, Conn.
New York Sales Office: 200 Madison Avenue, New York, N. Y.



Don't Leave it to Chance

In war and peace manufacturers recognize the importance of specifications in production. They don't toss a coin to make a decision. Equally important, and often overlooked, is the necessity for adhesives to be particularly designed for a specific job.

UPACO, in addition to featuring a complete line of high quality flexible glues, stripping glues, labeling glues and pastes, and our famous GLU-WELD water-resistant adhesives, is backed by over 75 years of experience in formulating specialty adhesives for particular requirements. The UPACO laboratories are available at all times to help you solve all adhesive problems. We are anxious to work with you on possible post-war applications of industrial adhesives, and we welcome your inquiries.

GLU-WELD WATER RESISTANT ADHESIVES—TRANSPARENT FILM ADHESIVES

UNION PASTE COMPANY

Quality Adhesives Since 1866

1605 HYDE PARK AVE. **UPACO** HYDE PARK, MASS.

CASE, BAG AND CARTON SEALING GLUES — LABELLING ADHESIVES

GLU-WELD AND GLU-SHIELD AVAILABLE
IN THE MIDWEST FROM
THE F. G. FINDLEY CO., MILWAUKEE, WIS.

- a. Good, better or best
 - b. Explanation of grading
- II. Art
1. Space break-up
 - a. Correct reading order
 - b. Dominant position or special treatment for most important copy
 - c. Simple, adaptable layout
 2. Eye appeal
 - a. Shape of tag (stock die or special die)
 - b. Color of ink, paper stock, string
 - c. Lettering and type
 - d. Illustration or decoration
- III. Production
1. Determine
 - a. Size or sizes
 - b. Method of attachment
 - c. Weight of stock
 2. Setup
 - a. Schedule and sequence of items or item groups to be tagged
 - b. Inventory control
 3. Specific copy and finished artwork for each tag
 4. Arrange
 - a. Schedule of printing
 - b. Distribution or delivery

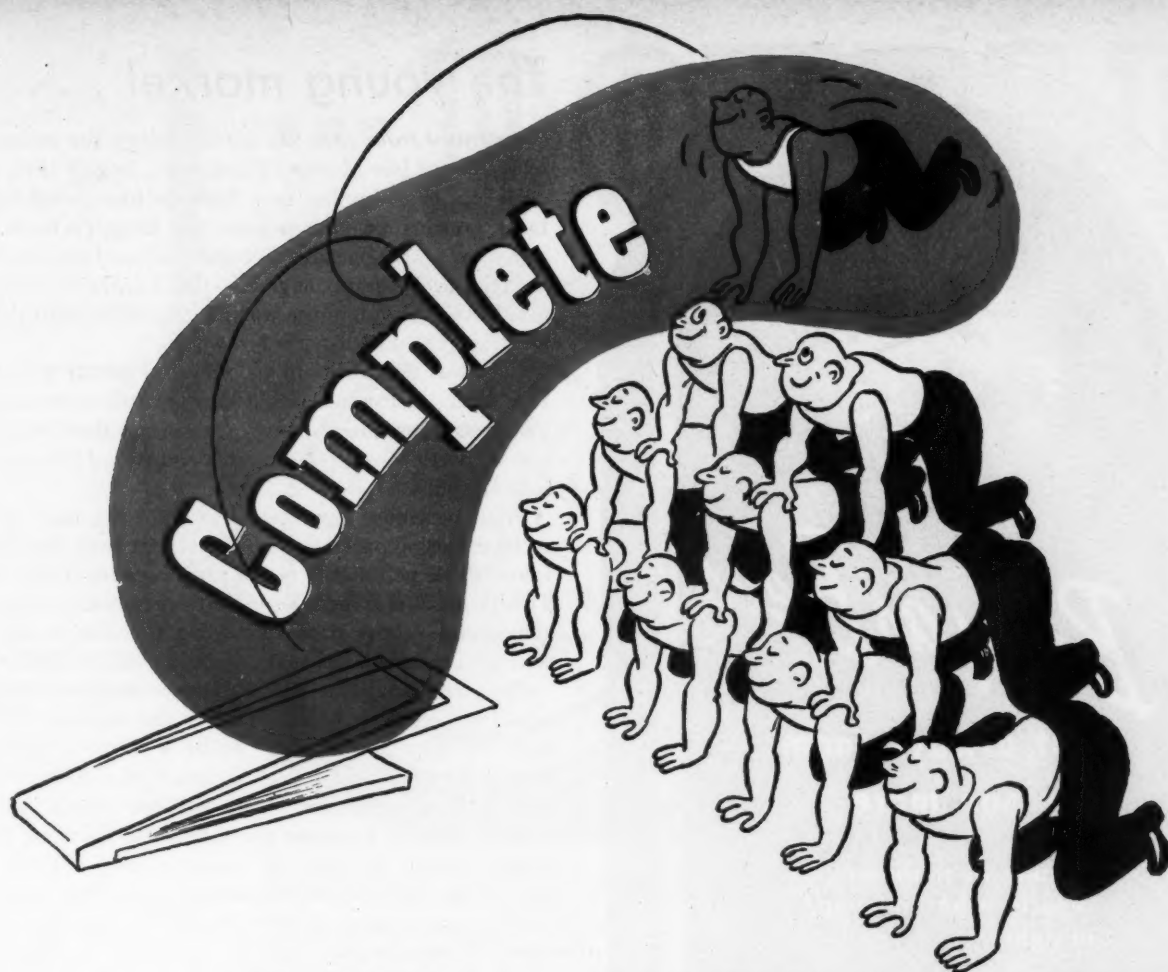
The benefits of a tagging program will be increased if it is introduced to the customer and, if possible, to sales personnel through advertising. Thus informative tags become an integral part of the whole merchandising plan.

Fixed flour sizes . . .

(Continued from page 97) pointed out that the proposed bill would establish the existing flour and cornmeal packages by uniform state law and would apply likewise to packaging of hominy and hominy grits, which in many states equal the sales volume of cornmeal.

The Council also explained that the bill had been approved by the National Bureau of Standards of the Dept. of Commerce, by the Food and Drug Administration of the Federal Security Agency, and by the Millers National Federation and the American Corn Millers Federation.

Without the assistance of the Justice Dept. and the Council it is likely that the millers would have made slow progress. Nevertheless, even the support of the Council and its highly favorable report was no guarantee that state legislatures would pass the bill. State legislatures do not work that way. So the millers got busy. Herman Steen, Federation vice-president in Chicago, lined up members in every state, to see that some friendly solon would introduce the measure. The millers did their own lobbying; they kept their bill out of the pigeonholes and saw it through the committees. One after another the states passed it—thirty-three of them in a single year! Only one turn-down was encountered, in Montana and this was due to a local misunderstanding which will be corrected. In the fourteen remaining states the legislatures were not in session, but the millers are confident that they too will join the parade this year. Actually, only three states remain which have laws conflicting with the decimal sizes, but the millers are out for a perfect score of 48, guaranteeing 100% national uniformity.



Complete . . . as in Betner Bag Service

Making bags for industry is a big part of our business, sure enough; but that's far from all you can get from Betner.

"From idea to finished bag"—that says it pretty well. On call at Betner are the idea men, art staff, printing presses and bag-making machinery for a complete bag service. And it's at your service—all or part.

Every year Betner Bags by the billion—that's right, by the billion—are drafted by the food-processing industry, to take their products safely to the consumer. Frozen foods, powdered foods, coffee, cereals, flour mixes, famous brands galore,

go to market in easy-sealing, easy-filling Betner Bags. What's more, they go Thermoseal- and Lamofilm-protected against leakage, seepage, loss of bulk or flavor.

Want a bag idea? A special design? An art suggestion? Or just bags, Betner-made? Tell us what's on your mind; maybe we can help. In any event, no obligation.

Benj C Betner Co

DEVON, PA.

Benj C Betner Co of California, Los Angeles, Cal.



Adv. 13



Busy as Bees

but always room
for one more

Frankly we're running to
capacity with no let-up
in sight.

Sooner or later, however,
you'll want for your
products, the distinctiveness,
craftsmanship and service
for which Continental
Plastic Corporation is fast
gaining leadership in the
field of plastic molding...
and sooner or later, we want
you to have them.

To make sure of eventual
supremacy in molded plastic
needs, bring or send in
your blueprints or sample
product soon.



CONTINENTAL
PLASTICS CORPORATION

308 WEST ERIE STREET
CHICAGO 10, ILL.

The young market . . .

(Continued from page 92) survey among the seventeen-age school crowd (see MODERN PACKAGING, August 1945, p. 113).

Helene Pessl for her new Melinda line shows her Little Lady growing up and pictures her in party frock. Little girl colors for the package give way to a combination of shocking pink, white and pale green—just a *soupcou* of sophistication. An old Dutch lace was photographed and reproduced for the overall design on the box wraps.

Coty was well ahead of the youthful parade with its Sub-Deb line. Dermetics has a dainty little ensemble called Teen care—containing a 4-oz. bottle of soil-absorbing cleanser, a small bottle of complexion dress and two of their automatic rouge-in-puffs.

Primrose House has concentrated for the teen age so far on its cleansing packs and acne lotion for both boys and girls whose whole personality is disturbed because of blotchy skin. This problem is sometimes even more serious for boys than girls and toiletries houses planning to cater to the young teen-age gentlemen still have a large, uncharted market.

The youth angle for the first time is now beginning to be considered seriously in the thinking and planning of the cosmetic industry and is likely to be a powerful influence in helping to roll up total sales in this field of \$800,000,000 in 1946 and an estimated \$1,000,000,000 within a decade. There is interest wherever you talk about it among cosmetic people, either retailers or manufacturers. Toilet goods buyers who talk with mothers shopping for their children feel that the soap animals, brushes named after popular heroes and other attempts to dramatize the child's use of toiletries have produced a new shopping interest in such items. Newer lines can increase those interests. Properly packaged and presented they can help to form habits of well-grooming and cleanliness that will be a personal asset for a lifetime—and to the cosmetic industry, a continuing sales asset from generation to generation.

Washington review . . .

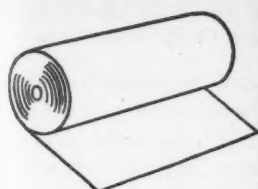
(Continued from page 158) the fostering of new packaging developments.

In all probability, it is learned, the new packaging specification outfit will become a part of the Federal Specifications Board, an organization within the Treasury Procurement Division responsible for the preparation and revision of federal specifications for supplies.

The Board already has a paper and paper products committee and the report is that this is to be expanded into an overall packaging set-up, utilizing the packaging specifications developed during the war by the Army, Navy and other agencies.

● **Packaging Machinery Controls**—Price controls on packaging machinery, food and tobacco processing equipment remain, despite the declaration to OPA that they should be removed immediately "to facilitate the production and decrease the cost of consumer goods." The declaration was made by Frank B. Fairbanks, president, Packaging Machinery Mfgs.' Institute.

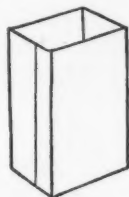
Continuation of the controls, Mr. Fairbanks told Chester Bowles, OPA administrator, would be a "tre-



1. STARTS WITH PAPER FROM A ROLL

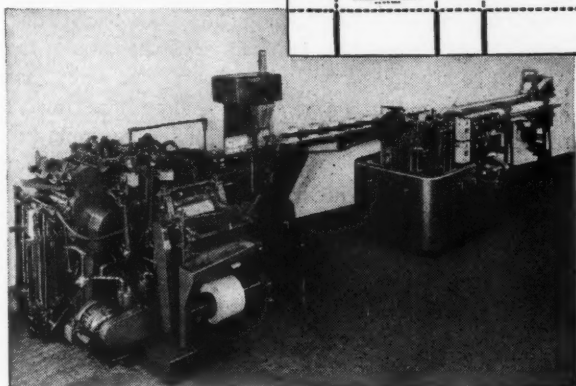


2. CUTS OFF A SHEET OF PAPER



4. TAKES A PRINTED CARTON BLANK

3. WRAPS, FOLDS AND GLUES PAPER AROUND A BLOCK TO MAKE INNER BAG LINER



"Pneumatic Double Package Maker, Filler and Top Closure Machine."

FIFTY YEARS OF PROGRESS

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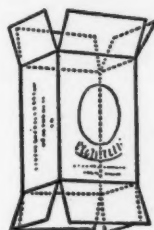
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SPEEDS TO MEET
YOUR NEEDS

A PNEUMATIC MACHINE •
COMBINATION THAT
PRODUCES A "PACKAGE
WITHIN A PACKAGE"

5. FOLDS CARTON BLANK AROUND SAME BLOCK ON WHICH BAG HAS ALREADY BEEN MADE

6. THE LINED, BOTTOM-SEALED CARTON EMERGES FROM THE DOUBLE PACKAGE MAKER READY FOR FILLING

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IN Pneumatic's Double Package Maker may lie the answer to your post-war plans for a more practical and economical package for your product. The inner liner is constructed and sealed in such a way that it is a tight package within itself, insuring the lasting flavor and freshness of the product. Improved laminated glassine and numerous other types of papers are now available, and the Double Package Maker will handle either heat seal or glue seal lining materials.

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mendous hindrance to reconversion not only to manufacturers of this type of equipment but to our customers who need new equipment to increase their production.

● **Paperboard Case at FTC**—National Paperboard Assn., Chicago, and 11 of its member manufacturers are now awaiting Federal Trade Commission action on the answer they have filed to the FTC's complaint charging that they have conspired unlawfully to eliminate price competition, restrict production and monopolize the manufacture and sale of paperboard and its products. There will probably be a hearing early in 1946.

Meat packaging outlook

The pre-packaging of meat for retail sale, whether in fresh or frozen form, is definitely slated for increased attention in the immediate future as a means of breaking the traditional meat-counter bottleneck and giving meat cuts added merchandising appeal to meet the trend toward self-service.

This general view was expressed in a round table discussion on October 31 at the annual meeting of the American Meat Institute, held at the Stevens Hotel, Chicago. Participants in the session were J. W. Christian, general sales manager, The Cudahy Packing Co., Chicago; E. W. Williams, publisher and editor, *Quick Frozen Foods*, New York; Lt. F. Martin Hilby, assistant liaison officer, Navy Market Office Headquarters, Chicago; Neil Anderson, beef department, Wilson & Co., Chicago, and George W. Meek, president, Frozen Food Products, Inc., New York.

Although differences of opinion were indicated on the outlook for quick-frozen meats, the importance of proper packaging for all types of pre-packaged meats was conceded by each speaker. Mr. Anderson stated that tremendous strides in the development of packaging materials, both transparent and opaque, had been a major factor in the expansion of the quick-frozen food field. Research indicates, he said, that the degree of packaging protection is even more important in maintaining the quality than the freezing technique employed.

Declaring that "the day of bulk selling is coming to an end, even in meats," Mr. Williams said that 35,000 stores are now handling frozen foods and expressed the belief that the number of stores with frozen food cabinets would be doubled in 1946. He also cited the rise of house-to-house distribution of frozen foods, estimating that from 3,000,000 to 5,000,000 home freezer units may be sold within the next few years, in addition to millions of standard home refrigerators equipped with frozen food compartments. Frozen packaged meats, he said, would give the packer the advantage of a branded product, whereas pre-packaging of fresh meats would be mainly a retail operation.

The building of frozen meat sales, it was pointed out, can come no faster than the expansion of adequate zero storage facilities in market outlets and in the home. For the immediate future, indications are that frozen meats will rank as a specialty with sales limited to middle and upper incomes.

A package which will prevent surface discoloration is one of the problems facing the frozen meat field, according to Lt. Hilby. Mr. Meek said that up to the present time there has been no concerted effort to standardize on frozen meat package sizes and that activity in the frozen meat field to date has not encouraged equipment firms to build dispensing cases designed specifically for handling frozen meat.

PIONEERS IN 1939

LEADING THE FIELD TODAY

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RIGID
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Package Planning
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Showboxes can be had with cardboard or metal bottoms; metal or transparent, plastic lids. Printing, screen processing or decalcomania can be used in one or more colors to apply brand names, sales appeals or ornamentation.

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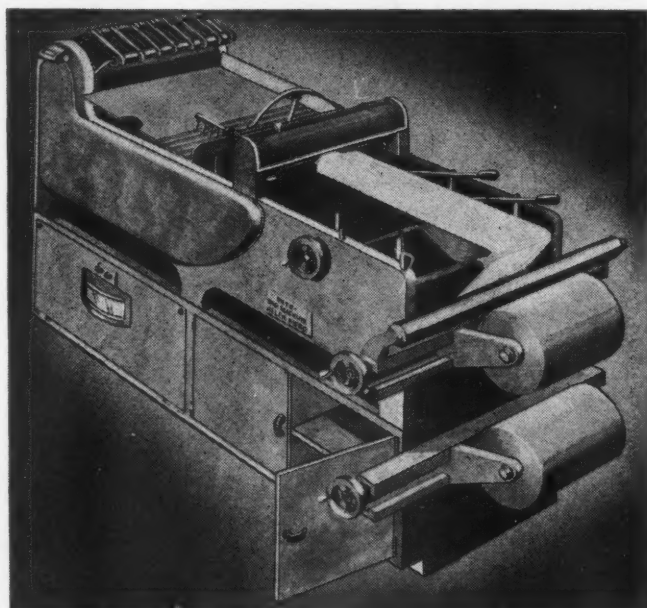
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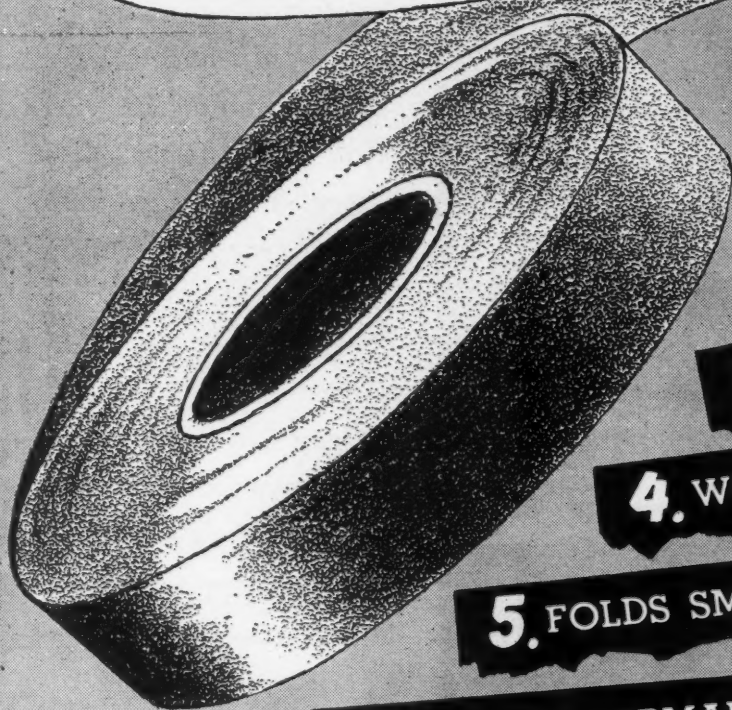
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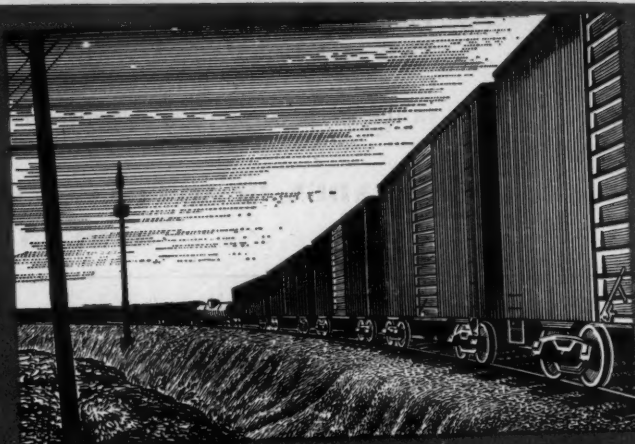
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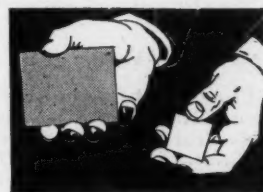
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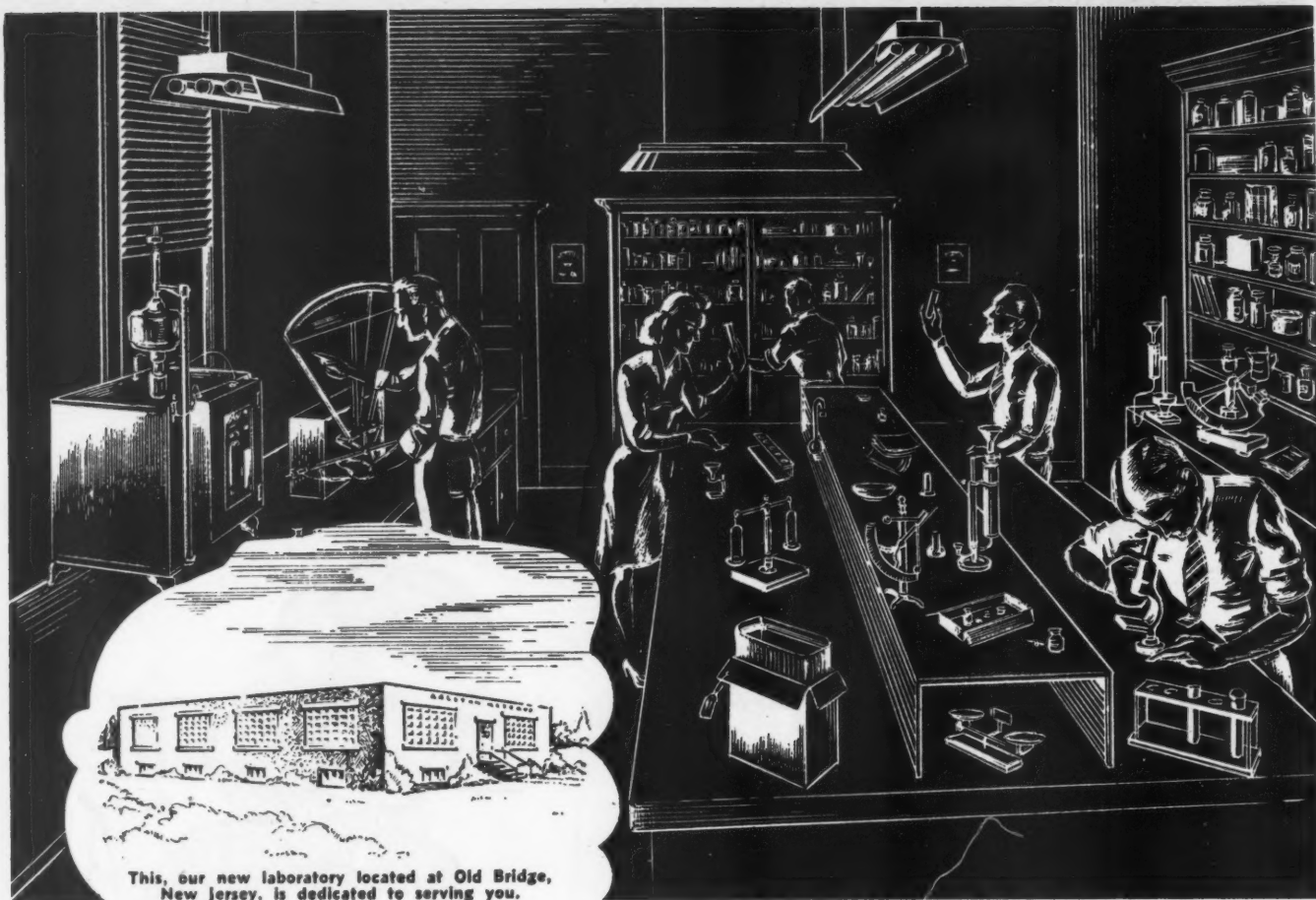
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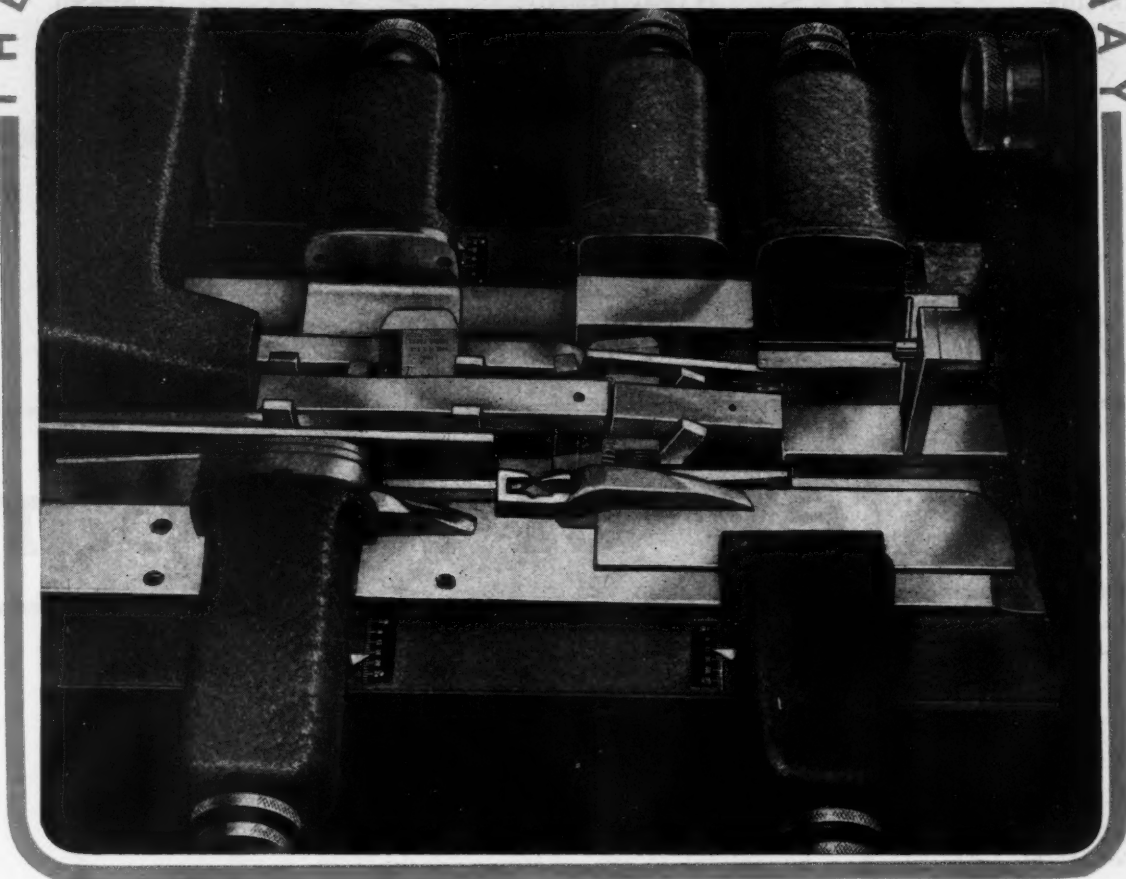


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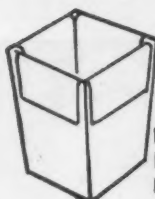
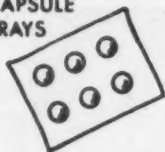
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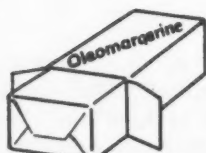
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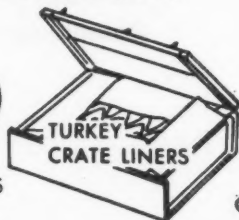
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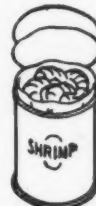
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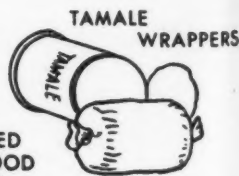
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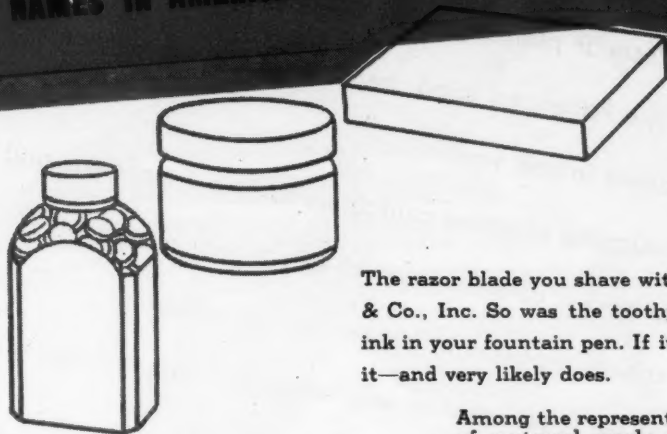
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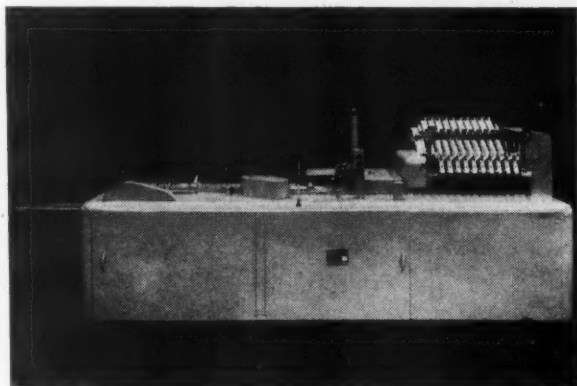


The razor blade you shave with was probably cartoned by R. A. Jones & Co., Inc. So was the toothpaste in your medicine cabinet and the ink in your fountain pen. If it's a cartoned product, Jones can carton it—and very likely does.

Among the representative American manufacturers of cartoned goods who use Jones cartoners are:

Lever Brothers Company
Gillette Safety Razor Co.
Bristol-Myers Co.
Procter & Gamble Co.
National Biscuit Co.
Pepsodent Company
Eastman Kodak Company
Lehn & Fink, Inc.
Parke, Davis & Co.
E. C. DeWitt & Company
Mentholatum Company
E. R. Squibb & Sons
Stanco, Incorporated
Upjohn Company
Menley & James, Ltd.
Barbasol Company
H. C. Glover Laboratories
Brillo Mfg. Co.
Consolidated Razor Blade Co.
Iodent Chemical Company
Mennen Company
Rit Products Company
Vick Chemical Company
Miles Laboratories, Inc.
Franklin Baker Division
Griffin Mfg. Company
P. Lorillard Company
Ex-Lax Mfg. Company
Colgate-Palmolive-Peet Co.
Chesebrough Mfg. Company
C. B. Fleet Company

Corega Chemical Company
Kilgore Mfg. Company
Campana Corporation
B. Manischewitz Company
Scholl Mfg. Company
L. E. Waterman Company
American Safety Razor Corp.
Kolynos Company
W. H. Marvin Company
Conrad Razor Blade Co.
Norwich Pharmacal Co.
Musterole Company
Seck & Kade, Inc.
Walter Baker Company
Frederick Stearns & Co.
J. B. Williams Company
Kimberly Clarp Corp.
O'Cedar Corporation
Dr. D. Jayne & Son
Petrolagar Laboratories, Inc.
R. T. French Company
Newskin Corporation
Carter's Ink Company
West Disinfecting Company
Charles E. Hires Company
McCormick & Company
Patagonset Finishing Co.
Parker Pen Company
A. Schilling & Company
Manhattan Soap Co.



● Such a clientele cannot be the result of chance. It was built on the better performance that Jones cartoners give. If you are interested in the cartoner that has been ordered and re-ordered by so many outstanding producers of cartoned products, write to R. A. Jones & Co., Inc. for further information today.



R. A. JONES & COMPANY, INC.

P. O. Box 485

CINCINNATI, OHIO

DECEMBER • 1945

201

THE PACKAGE OF THE **FUTURE**

THE PALLETIZED LOAD A WAR-BORN DEVELOPMENT

In Postwar planning many large shippers will be turning to the Palletized Load, because of the experience gained in this war.

Designing shipping containers to fit a freight car and NOT to hold a given amount of goods was a critical problem which was solved militarily.

There is NO reason why industries cannot adopt this procedure when the contents "Fit the

Container" — which Fits the Pallet — which Fits the Boxcar.

Prior to the Palletized method, it took 14 men a half a day

to break material out

of stowage and load a car,

handling each container

separately. Now one person

on a fork truck can load

the same car in less than 2 hours.

For large users — booklet on

the Palletized Load, illus-

trated with official photographs.



SAVE



WASTE

PAPER

ROBERT GAIR COMPANY, INC., NEW YORK • GAIR COMPANY CANADA LIMITED, TORONTO

Folding Cartons • Box Boards • Fibre and Corrugated Shipping Containers

IMPROVED PRODUCTION...

right up Alvey's Alley!



That's why the products of leading Industries move on...

ALVEY *Conveyors* **ST. LOUIS**

ALVEY CONVEYOR MANUFACTURING CO., 3201 SOUTH BROADWAY, ST. LOUIS 18, MO.

IT'S WHAT YOU DO WITH CELLULOSE FIBRE THAT COUNTS



Getting the eye to say "Buy"

No one knows whether it's the gay color or honey fragrance of a particular flower that first attracts the bee.

But alert manufacturers do know that attractive packaging of foods, drug products, clothing accessories, and many household items is very important in getting the eye to say "buy."

As sales competition gets keener, an attractive label or wrap will be more important than ever—for then it will be package against package, name against name.

So give your product the break it deserves. Give it an attractive package. Give it an appealing label or wrap printed on paper that adds its own sparkle and life. Use a quality paper that expresses the quality of your product.

Oxford's quality papers, that really give products a "lift," are papers that do the job. They are made to print well, and they perform well on automatic labeling and wrapping machines.

These fine papers are backed by Oxford's long reputation for quality. They are the result of continuous research in getting the best out of cellulose fibre—the result of making over a thousand miles of quality paper daily for many years.

And, as always, Oxford counsel is yours for the asking.



OXFORD PAPER

COMPANY

230 Park Avenue, New York 17, N. Y.

MILLS at Rumford, Maine and
West Carrollton, Ohio

WESTERN SALES OFFICE:
35 East Wacker Drive, Chicago 1, Ill.

«»

Included in Oxford's line of quality printing and label papers are:

ENAMEL-COATED — Polar Superfine, Mainefold, White Seal, Rumford Enamel and Rumford Litho C1S; UNCOATED—Engravatone, Carfax, Aquaset Offset, Duplex Label and Oxford Super, English Finish and Antique.

LOOK...THE BIG ROLLS ARE BACK

NO RESTRICTIONS...
order all you want!

NO DELAYS...
immediate delivery!



YEP . . . it's finally happened! You can order all the large rolls of "Scotch" Cellulose Tape you can use . . . and get 'em fast!

Some Heavy Duty Dispensers, now, too. Order them right along with your "Scotch" Tape shipment of 2592 inch rolls.

SCOTCH *Cellulose* TAPE

BRAND

Made in U. S. A. by **MINNESOTA MINING & MFG. CO.**, Saint Paul 6, Minn.

THE 3M COMPANY

"Scotch" is the trade-mark for the adhesive tapes made by the 3M Company



***I** N CASE WE'RE STRANGERS*

**Here's A Let's-Get-Acquainted Message From
A Packaging Machinery Company You Might
Meet In 1946 For The First Time**

We started in business in 1893 by introducing the first automatic packaging machinery for handling smoking tobacco. As our staff and facilities expanded we gradually began working with other industries. Our circle of clients was growing when World War II clouds prompted Uncle Sam to request and receive our exclusive attention. Our assignment—top secret precision instruments—continued through the war and several months after V-J Day.

Now we're back in civies. During 1946 we will market several new and improved automatic packaging machines for companies we never served before . . . perhaps your company.

Until delivery dates can be given we prefer not even to mention what these machines are or what they'll do. But when that day does come, we hope you won't consider us as total strangers.

WRIGHT'S *Automatic
Machinery Company*

333 Calvin St.

•

Durham, N. C.

"Pioneers Since 1893 In Automatic Packaging Machinery"

WHAT A DIFFERENCE DECALS MAKE



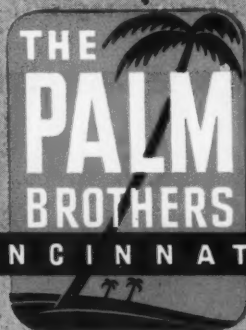
Palm Bros.

Right! Identification through Palm Brothers Decals means your smart containers are permanently marked for success.

Easy to apply and presenting no production problems, Palm Brothers Decals will add immeasurably to the irresistible eye appeal you are seeking for increased sales.

There is a Palm Brothers Decal for almost every known surface, with proved properties to give the utmost in satisfaction, even under the most unreasonable of performance requirements.

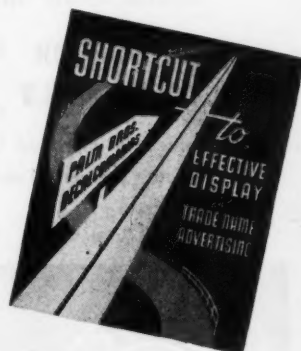
We will be pleased to prepare individually designed sketches, quote prices, and furnish complete information without obligation.



Decalomania Co.

CINCINNATI...12...OHIO...U.S.A.

Write today for your
free copy of new
Bulletin No. 916.



Clearsite^{*} *Plastic* CONTAINERS

offer exclusive

EXPORT features, too!



SHATTERPROOF

CLEARSITE containers are made of resilient plastic; never break when dropped or roughly handled. They have cellulose acetate "safety-base."

NO LOST OR TORN LABELS

Because ALL labeling matter on CLEARSITE containers is imprinted ON the container, assuring permanent and complete labeling matter.

*Reg. U.S. Pat. Off.

ECONOMY: No excess BULK or WEIGHT, when you use CLEARSITE, because CLEARSITE is one-fifth the weight of glass, and because it is *shatterproof*, protective padding is not necessary. An important fact, because gross weight often determines import duties.

EYE APPEAL: Colorfully opaque or lustrous transparent CLEARSITE provides a package that is durable as well as attractive.

*Send for details on CLEARSITE'S
Outstanding EXPORT advantages!*



CELLUPLASTIC CORPORATION

PLASTIC CONTAINERS
AND
PLASTIC PRODUCTS

40 AVENUE L

NEWARK 5, N. J.

NEW YORK OFFICE—630 FIFTH AVENUE

WEST COAST CONTAINER SERVICE COMPANY, LOS ANGELES 27, CAL.



is woven into the content, the design and the colors of each of the new lines of Papers Distinctive, the Marvellum Packaging Papers that speak.

Their interrupting thought stops the wandering glance — their tantalizing appeal urges acceptance of the product. These packaging papers move merchandise.

Every day brings us closer to the 1946 Sales Parade. Every day brings us closer to the moment when Papers Distinctive will be spotlighting merchandise on dealers' counters and shelves.

Right now, although our Manufacturing Division is still under the pressure of backlog business, we are rendering surprisingly good service to our customers. Why not send along your requirements?

PAPERS DISTINCTIVE

THE *Marvellum* COMPANY
H O L Y O K E

M A S S A C H U S E T T S

HI-BINDER



The Wrappers that have Everything!

HI-BINDER wrappers are new, different, proved through the toughest service for the Service. Made of laminated cloth, paper, metal, foil or cellophane . . . coated or impregnated, they are water-, vapor-, moisture-proof, flavor-sealed. Available in any size to fit any carton liner, packaging or bag-making machine. Ideal for retaining freshness of meats, candy, drugs, tobacco.

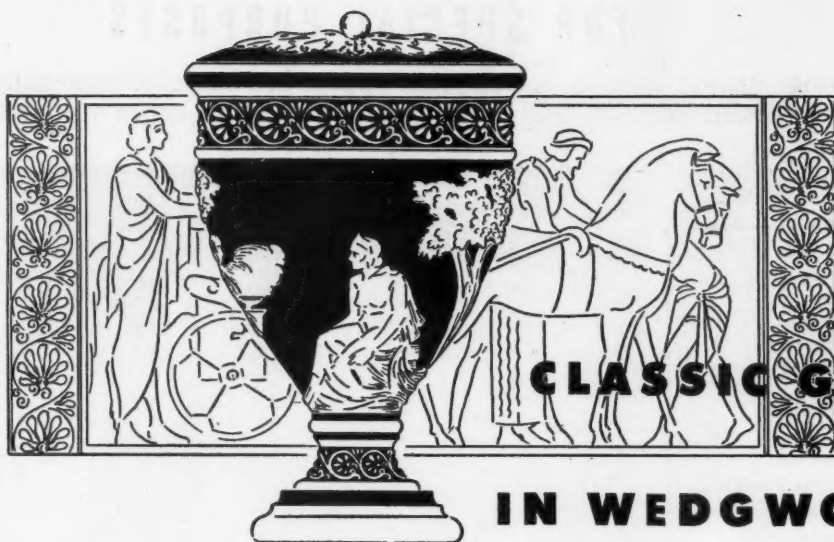
We are equipped to immediately produce HI-BINDER wrappers to your specifications . . . full laboratory co-operation in meeting your particular needs.

Contracted by The Floyd A. Holes Co., Bedford, Ohio for

THE CENTRAL OHIO PAPER CO.
226 North Fifth Street Columbus 16, Ohio

Also in Detroit, Cleveland, Pittsburgh, Dayton, Indianapolis, Toledo, Charleston

**SPECIALISTS
IN WRAPPER
PROBLEMS
PROMPT DELIVERY**



CLASSIC GREECE . . .

IN WEDGWOOD CHINA

White figures, designed by the great artists of the day, or taken from classical models . . . raised on a background of blue, green or black . . . that, to most people, typifies Wedgwood. Josiah Wedgwood spent many years developing and perfecting the patterns and methods for making this popular china.

The superb quality of Wedgwood's work is attested by the fact that his china has survived the changes of two centuries . . . and still retains its characteristic forms, designs and colors.

We, at Carr-Lowrey, have devoted years to perfecting the methods and materials for making finer glass containers. For half a century this pride in craftsmanship has characterized our organization. It has earned for us the confidence of the buyers of "extra quality" glass containers.

**CARR-LOWREY
GLASS CO.**

Factory and Main Office: BALTIMORE, MD.

New York Office: 500 Fifth Ave.

Chicago Office: 1502 Merchandise Mart.

NATCO SPECIAL *Protective* PAPERS

(Government Standard)

FOR SPECIAL PURPOSES



#4—Box Lining—strong, flexible, water-proof papers are designed especially for maximum protection inside boxes. Such papers protect all types of merchandise from food to machinery.

Our special sheets are
Laminated Papers
Reinforced Papers
Ream Wrappers
Saturated Papers

FOR

1. Crate Packing
2. Box Lining
3. Box Covering
4. Small Parts Packing
5. Ream Wrapping
6. Roll Wrapping

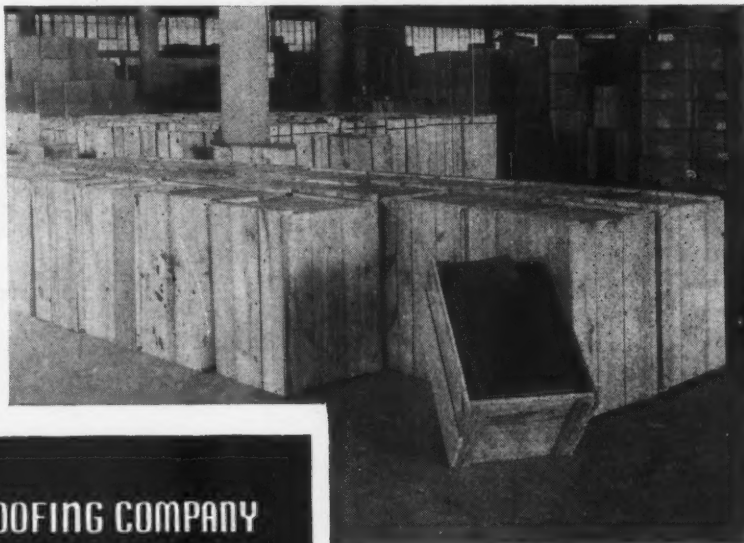


National WATERPROOFING COMPANY

FRONT AND BECKETT STS. CAMDEN, N.J.

DUPLEX · SATURATED · REINFORCED · WAXED & OILED PAPERS

BUY UNITED STATES WAR BONDS & STAMPS



THIS
"READY MADE"
PACKAGING
DEPARTMENT
CAN SAVE
YOU MONEY

We have

THE ORGANIZATION
THE EQUIPMENT
THE "KNOW-HOW"

Our custom packaging department will do your packaging for you. All set-up and running, we are ready to take on your job.

A long record of successful packaging for other companies is your best guarantee of good service. We handle all types of dry powders, chemicals, cosmetics and household products in cartons, cans, set-up boxes, round paper packages or envelopes. We do your mixing, filling, weighing, labelling, etc., on high speed automatic equipment. Call on us to handle all or part of your packaging.

Write or phone.

THE STEVENS-WILEY MFG. CO., INC.

Hancock, Palethorp & W. Berks Streets

Philadelphia 22, Pa. REGent 1616-1617



"The bigger the family — the better the service"

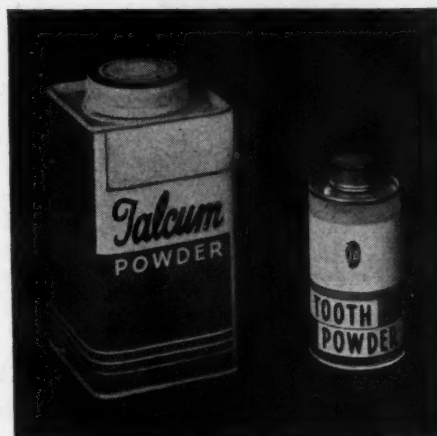
THERE isn't room enough to tell you just how big Continental's family is—but you'll find it's plenty big enough to give you *complete* service.

Varied experience, technical skill, increased facilities and resources, designing and engineering "know-how" have been welded into one unit that can help you, from a particular problem to a perfect package.

Continental offers a complete line—metal containers, liquid-tight paper cups and containers, fibre cans and drums, steel pails and other heavy-duty containers.

We've been in there pitching for Uncle Sam. But keep your eye on Continental *now*! And on Continental's trademark, too! The Triple-C stands for *one* company with *one* policy—to give you only the very best in quality and service.

Tune in: "REPORT TO THE NATION" every week over coast-to-coast CBS Network



Continental Fibre Cans—These composite cans (with fibre bodies and metal ends) meet a definite packaging need. They bridge the gap between all-metal cans and paper containers, folded boxes or bags. They're made for easy conveyor and filler handling, in a wide range of shapes, sizes, and diameters, with a great variety of metal dispensing closures—"naturals" for safe shipping of drugs, cosmetics and chemicals.

CONTINENTAL



CAN COMPANY, INC.

FIBRE DRUMS The Container Co., Van Wert, Ohio

LIQUID-TIGHT
FOOD CONTAINERS

Boothby Fibre Can Co.
Roxbury, Mass.

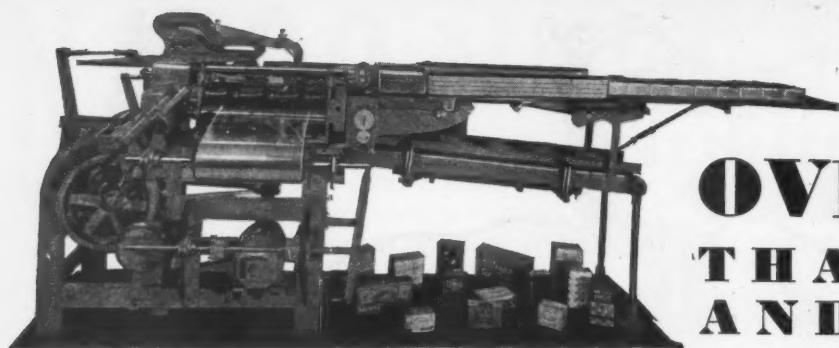
PAPER CUPS AND
FOOD CONTAINERS

Mono Containers
Newark, N. J.

COMBINATION PAPER AND METAL CONTAINERS

Headquarters: 330 W. 42d St., New York 18, N. Y.

13 Plants — Sales offices in all principal cities



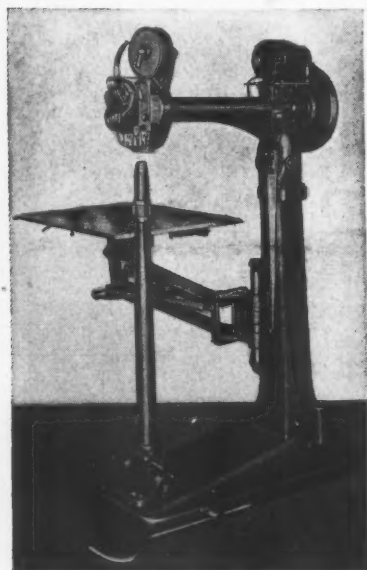
OVERWRAPS THAT PROTECT AND BEAUTIFY

•
**IT PAYS
TO WRAP
THE HAYSSEN
WAY**
•

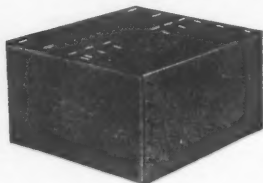
The value of good packaging has long been recognized. Meticulous care in the selection of proper design, color scheme, and overwrap pays out in greater sales dividends. In addition, another detail should be carefully checked . . . the manner in which the overwrap is placed around the carton. Careless, unkempt wrapping can spoil an otherwise beautiful package. If you are interested in better wrapping, in finer package appearance, write the Hayssen factory today. An outline of your problems will receive immediate consideration.

HAYSSEN MFG. COMPANY • SHEBOYGAN, WIS.

HAYSSEN WRAPPING
ELECTRONIC CONTROLLED MACHINES



Set Up for Bottom Stitching



BLISS TOP and BOTTOM STITCHER

*Corrugated or Solid Fibre Containers Are Stitched Both
TOP and BOTTOM on This STITCHER*

TOP and BOTTOM Stitched Containers are now specified for packing numerous products. On this Stitcher the bottoms of containers may first be wire stitched, then filled and the tops sealed with wire stitches.

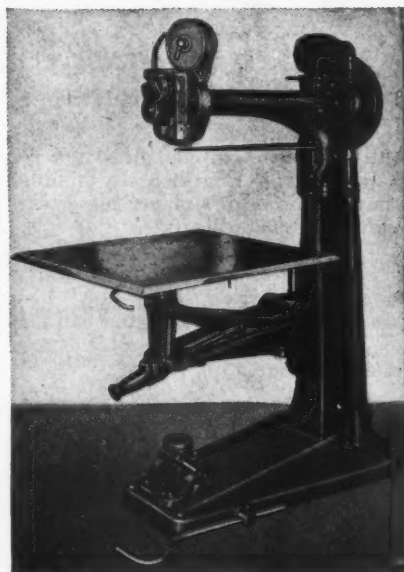
The illustration at the left shows the machine set up for bottom stitching of containers.

For top stitching of filled containers, the post is removed and table and blade anvil swung into position as illustrated at right. Less than one minute is required to make the change.

The counterbalanced table is quickly adjustable for varying heights of boxes.

Built in two sizes, with 15" and 25" throats and 26x30" work table. Handles boxes up to 25" in depth. Standard Bliss Heavy Duty Stitcher Head is used. Motor ¼ HP.

Wire Stitching both top and bottom provides a uniformly secure closure and gives added strength and rigidity to the case.



Set Up for Top Stitching

Write for further information.

DEXTER FOLDER COMPANY, 330 West 42nd Street, New York 18, N. Y.

Chicago: 117 West Harrison Street

Philadelphia: 387 Bourse Building

Cincinnati: 1335 Paxton Street



Your  *Carton*

IS IT WINNING A WHISTLE OR LOSING ON LOOKS?

What sells? In tight competition colorful contrast, clean lines, high-quality-at-a-glance make the buyer's choice an easy one. Carton users like motor makers realize this fact.

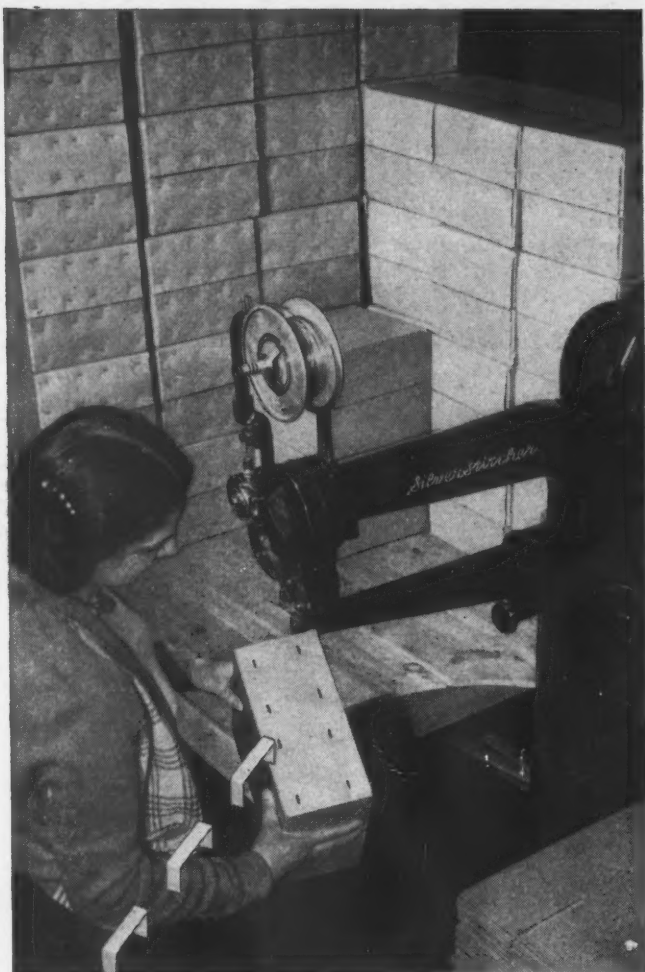
Examine a well designed carton of Ridgelo Clay Coated Boxboard and notice its features. It feels satin-smooth, lettering is bright and legible — shelf life won't age it. And the buyer sees honest value and an invitation to buy.

It's true that many selling leaders in drugs and cosmetics, in specialty foods and textiles are packaged in Ridgelo Clay Coated Boxboard. The combination of a reliable boxmaker and this fine boxboard may prove a sound investment in your current merchandising plans. You'll be in good company!

Ridgelo
CLAY COATED
BOXBOARDS

**MADE AT RIDGEFIELD, N. J.,
BY LOWE PAPER COMPANY**

Representatives: Bradner Smith and Company and Mac Sim Bar Paper Company, Chicago • H. B. Royce, Detroit
Gordon Murphy and Norman A. Buist, Los Angeles • A. E. Kellogg, St. Louis • Philip Rudolph & Sons, Inc., Philadelphia



LOWER CARTON CLOSING COSTS

An Acme Silverstitcher* saves time, money and labor by closing carton bottoms, tops and sides with steel stitches — Acme Silverstitch* wire — the specially treated steel wire which comes in continuous length coils for speed and economy.

SATISFIED USERS SAY:


"We stitch 100 cartons in the same time it took to seal 50 the old way."

"We find a material and labor savings of approximately 30%."

To find out how much you can save in your carton sealing operations, write Department 1312, Acme Steel Company.

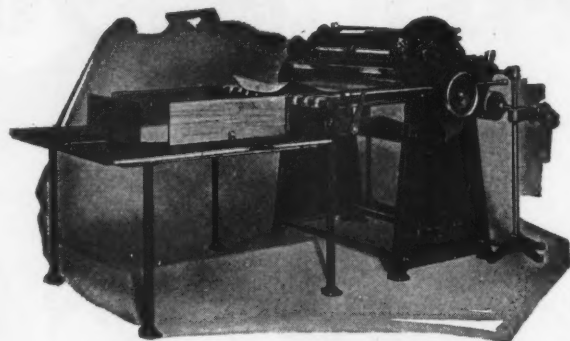
*Reg. U.S. Pat. Off.

NEW YORK 17 ATLANTA CHICAGO 8 LOS ANGELES 11

Silverstitch  *Silverstitchers*

ALSO MANUFACTURERS OF ACME STEELSTRAP AND STRAP APPLYING EQUIPMENT

*Many Great Nations Are Already
Planning Post War Programs*
as are also many business men—**ARE YOU?**



THE BECK SHEETER

After "Unconditional Surrender" is a fact of history, you will want the highest productive Sheeting equipment obtainable, to meet competition. Your choice may be from the hi-speed Electric Eye machines for "spot sheeting" down to the more simple standard machines for plain work.

Write us to-day for to-morrow.

CHARLES BECK MACHINE CO.

13th & Callowhill Streets

Philadelphia, Pa.

BE SQUARE WAX

Wartime Experience Proves A Big Civilian Future!

Virtually the entire production of Be-Square Special Waxes—like all other important materials—was put to military use during the days of the war. Countless articles of war were packaged by these fine waxes.

Now, however, the outstanding properties of Be Square Special Waxes are returning to civilian service for peacetime use. Many new uses for them have already been discovered by forward-looking research chemists, and still more will follow. Such properties as High Moisture Vapor Resistance, Flexibility in Thin Films, High Melting Points (170/175° F and 190/195° F), Chemical Inertness and many others will be utilized to great advantage by the creators of new manufacturing processes and products.

Experiment **TODAY** for **TOMORROW'S** action. Write for samples, available in black, white and amber.



BARECO



OIL CO.

BOX 2009

TULSA, OKLA.

The 1946

MODERN PLASTICS CATALOG ENCYCLOPEDIA OF PLASTICS

is on its way!

THE culmination of an entire year's work by a staff of plastics authorities, the 1946 MODERN PLASTICS CATALOG is now in the production stage. Section by section, its near-1400 pages are rolling from the presses. Word by word it is being checked and re-checked to make sure of the accuracy and completeness which have made these annual Encyclopedia world famous.

Like its famed predecessors, the 1946 MODERN PLASTICS Encyclopedia will be the source book, hand book, guide book of plastics. It is so authoritative, that the very foremost engineering and technical schools in the country name it as their text book in plastics courses. The charts alone, are worth the price of admission! Nine special exclusive tables give the last word on Plastics Properties, Solvents, Plasticizers, Coatings, Synthetic Rubbers, Synthetic Fibers, Plastics Identification, Chemical Formulae and Raw Material Manufacture.

It would be impossible, in this small space, to list the separate articles—nearly 150 of them—which make up the contents of this world known encyclopedia. There are separate articles on every commercial plastic now in use; separate articles on every type of plastics equipment; manufacturing process and technique.

This is the only book of its kind—indispensable, vital, essential to the understanding and use of plastics in all industries. In spite of its enlarged size and the fact that it is being produced under conditions of increased expense, the 1946 MODERN PLASTICS Encyclopedia will be sold at the same price as last year's book.

\$6

per copy
in United States

\$7

per copy
Foreign
and Canadian

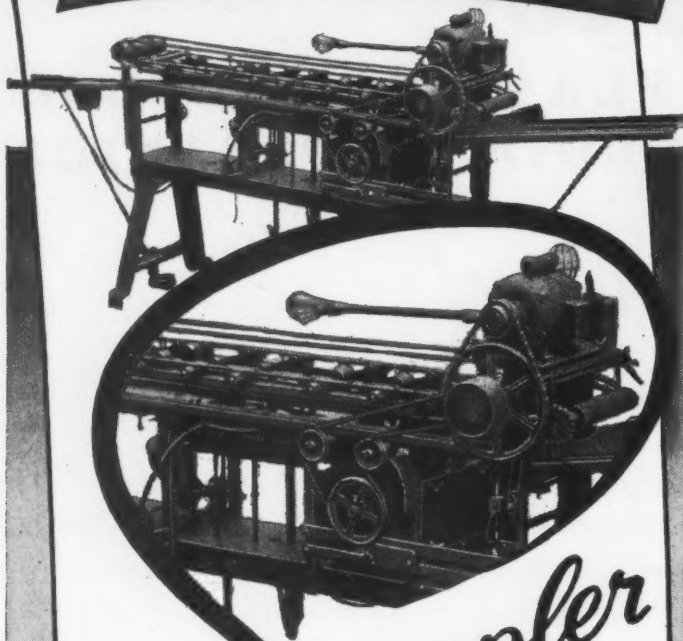
PLEASE SEND
CASH WITH ORDER

MODERN PLASTICS CATALOG

122 East 42nd Street

New York, N. Y.

FMC — KYLER LABELERS



The extreme simplicity of FMC-Kyler Labelers results from the absence of complicated mechanisms. This quality labeler does more and better work with about one-third fewer parts. One operator quickly and easily makes all adjustments for change in sizes of containers.

impler

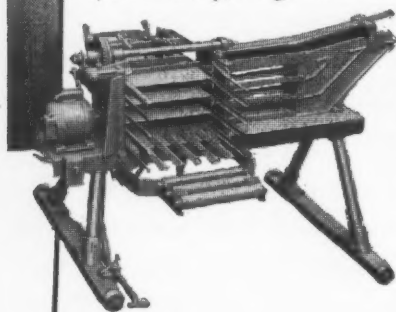
And also has these other unusual features!

*Handles a wider range of work. *Lap Paste System. NO DRIP. Automatic adjustment for any width label. *Large Label Box holds two full packs of labels. *Automatic Control. If discharge chute is full, labeler stops. *Lower Operating Costs. Uses less paste and gum.

*Lower Maintenance Costs. Fewer repair parts needed, and they cost less.

*Speedy Size Change. No tools needed.

All change points marked. *Seaming Pad easily removed, self-adjusting. *Adjustments provided for every possible need. *Sturdy, long life.



FMC — KYLER BOXER

All sizes have one-piece main frame construction, are extremely rigid, with great strength and durability. Maximum speed with minimum man power and floor space.

BRAND NEW FMC CATALOG contains full details of these new additions to FMC's complete line of food processing equipment.

K-102

Food Fights for Freedom—Food Nourishes the Nations

FOOD MACHINERY CORPORATION

Sprague-Sells Division

Hoopeston, Illinois

24 YEARS of KNOW-HOW

Specializing
in

PRECISION

*Compression
and
Injection
Molding*

also

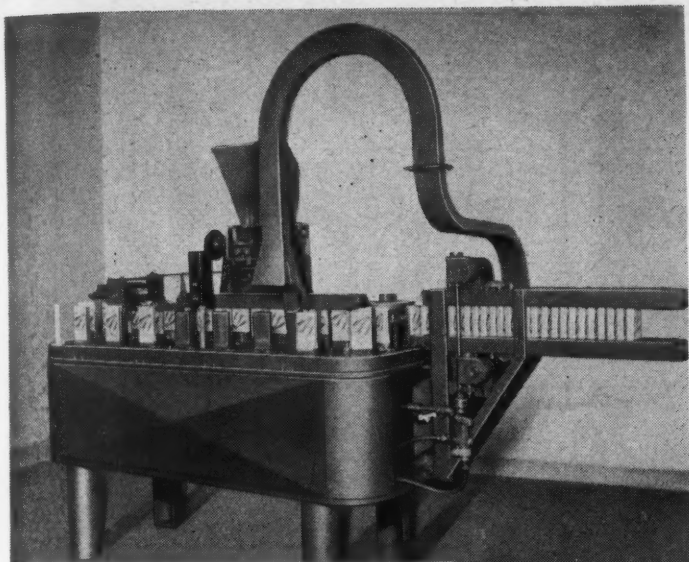
**HIGH PRESSURE
DIE CASTING of
ZINC and ALUMINUM**



**PLASTIC & DIE CAST
PRODUCTS CORP.**

Roy L. Peat, President • Established 1920

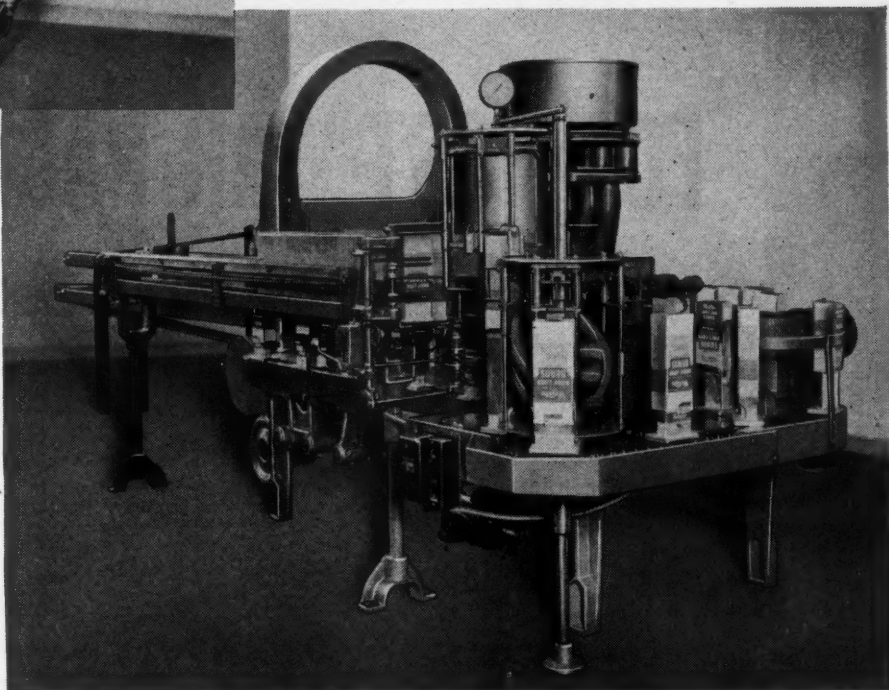
1010 EAST 62ND STREET
LOS ANGELES 1, CALIFORNIA



PACKOMATIC AUTOMATIC
Carton Filler and Top & Bottom
Sealer for Miniature Packages
(Model 8)

**... these
Packomatics
Fill and Seal
Both Carton
Tops & Bottoms**

PACKOMATIC AUTOMATIC
Top and Bottom Carton Sealer—
with Automatic Feeder & Volumetric Filler



**OUNCES
TO
POUNDS**

A GREAT PAIR—these two PACKOMATIC "Double Sealers", as the Trade refers to them. From miniature ounce-sample and individual-serving packages on the one machine, to commercial-sized packages pound weights on the other, these two units are time-savers, labor-savers—**MONEY-SAVERS!** Whether ounce packages or pound packages, these PACKOMATICS (1) *automatically* glue and seal carton bottoms; (2) *automatically* convey cartons under filler; then (3) *automatically* glue and close tops; and (4) *automatically* carry them under sealing compression to discharge point. Commercial package unit (as illustrated), is equipped with mechanism that automatically feeds flat cartons from magazine, opens squares and places cartons on forms. No operator required. Carton-feeding unit is optional. Consult PACKOMATIC'S office nearest you (see Metropolitan Classified Telephone Directory) or write Joliet. *No obligation!*

PACKOMATIC

PACKAGING MACHINERY

J.L. FERGUSON CO. JOLIET, ILL.

NEW YORK — CHICAGO — BALTIMORE — BOSTON — CLEVELAND —
DENVER — LOS ANGELES — SAN FRANCISCO — SEATTLE

**PACKOMATIC PACKAGING
EQUIPMENT**

- Case Imprinters
- Case Sealers
- Volumetric Fillers
- New Weight Scales
- Carton Making Machines
- Dating (Coding) Devices
- Auger Packers
- Paper Can Tube Cutters
- Paper Can Tube Gluers
- Paper Can Shrinkers
- Paper Can Cappers
- Paper Can Setup Conveyors

Shield-pak

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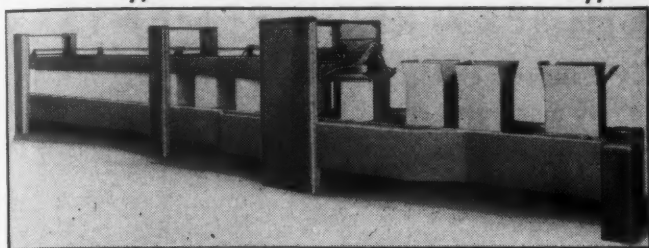
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Modern, streamlined design . . . requires no operator. Seals 30 cases per minute . . . both top and bottom, top only or bottom only. Fingertip control. Extra-rigid construction. Adjustable to 6"-18" width, 8"-30" length, 3"-28" height.



**Special
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Packaging machines correctly designed and constructed to fit your own special requirements.

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When Aunt Agatha sat down to the spinet, bad boy Billy and a sheet of Tanglefoot Fly Paper took firm hold of the situation. Getting rid of a sheet of Fly Paper takes some doing — but stripping a piece of Tanglefoot Sealing Tape from a carton is practically impossible. Pure bone glue and 60 years of specialization in applying adhesives to paper for specific purposes gives it a grip that never lets go, — the reason more and more discriminating buyers are turning to

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Machines

*Approved by
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ROSE ALBION FLYER—To form, cut and twist-wrap squares, oblongs, or popular rolls—for Hard Candy, Toffee, Kisses, Nougats, etc. **Capacity**—450 to 850 pieces per minute.

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OTHER ROSE WRAPPERS—For special types of candies—twist-wraps, fold-wraps, or bunch-wraps.

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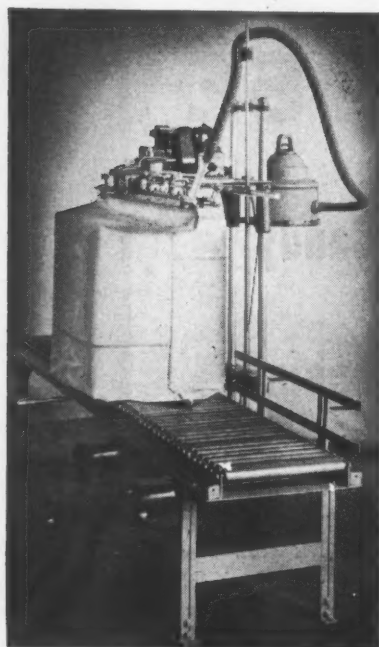
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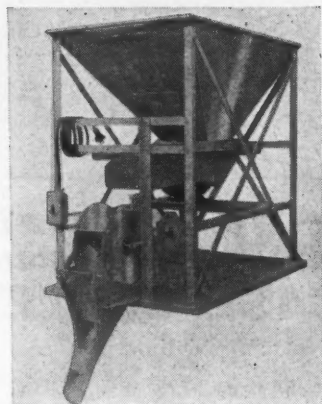


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For greater efficiency, speed and economy, AMSCO offers machinery to perform the following operations.

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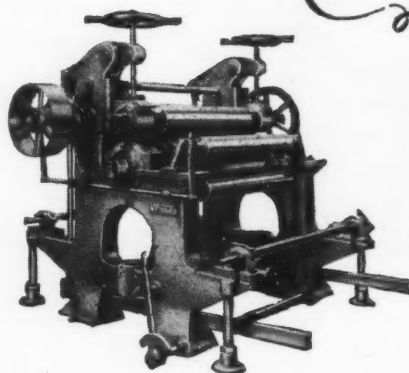
Belt drive, as shown, or variable speed motor drive, according to your power facilities—screw and lever pressure unit to which pneumatic or hydraulic pressure may be added as original equipment or at a later date—open-face construction for quick roll changes—these are construction features that make the Norwood Embossing Machine outstanding.

In short, here is the ideal Rotary Embosser for use on Cover Papers, Papetries, Greeting Cards, Box and Packaging Papers and Artificial Leather—built by Norwood to meet the needs of today's packaging industry. Other models under construction to meet every requirement of speed, pressure or width.

C-3

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1945

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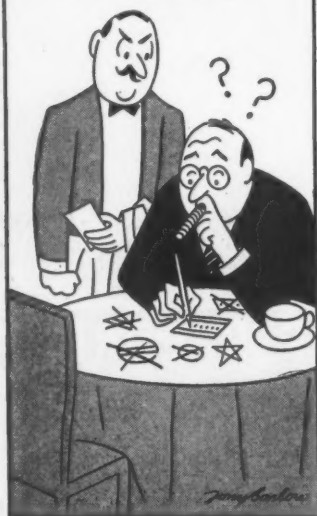
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1

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NOW is no time to lose time, or risk mistakes, in creating new tags or labels. You'll get the right answer to your problem faster by consulting Dennison first.

Dennison know-how is founded on over 100 years' experience in originating and manufacturing paper specialties. And in producing tags and labels by the millions, we have done the impossible time and again.

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Tubular packages

have found wide use under war-time shortages and peacetime necessities. They are self-labelled, attractive, sturdy, lightweight, in a wide range of colors and many possibilities of application. Let us show you. Send for samples.

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"From Standing Timber
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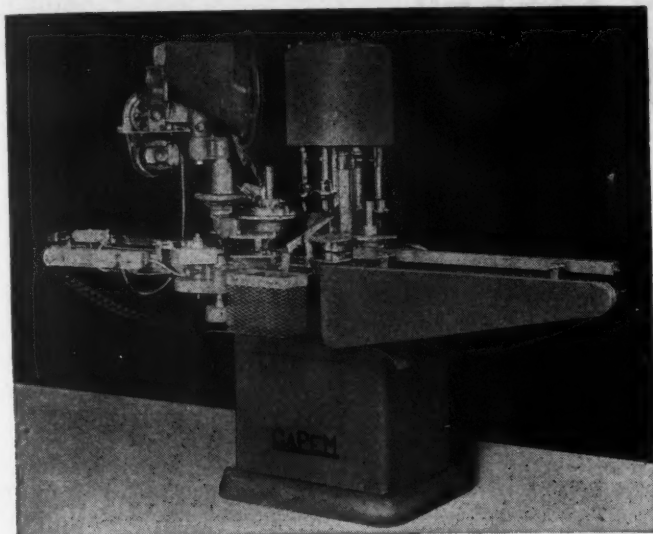
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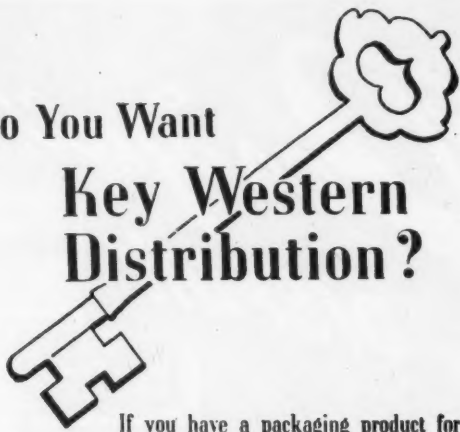
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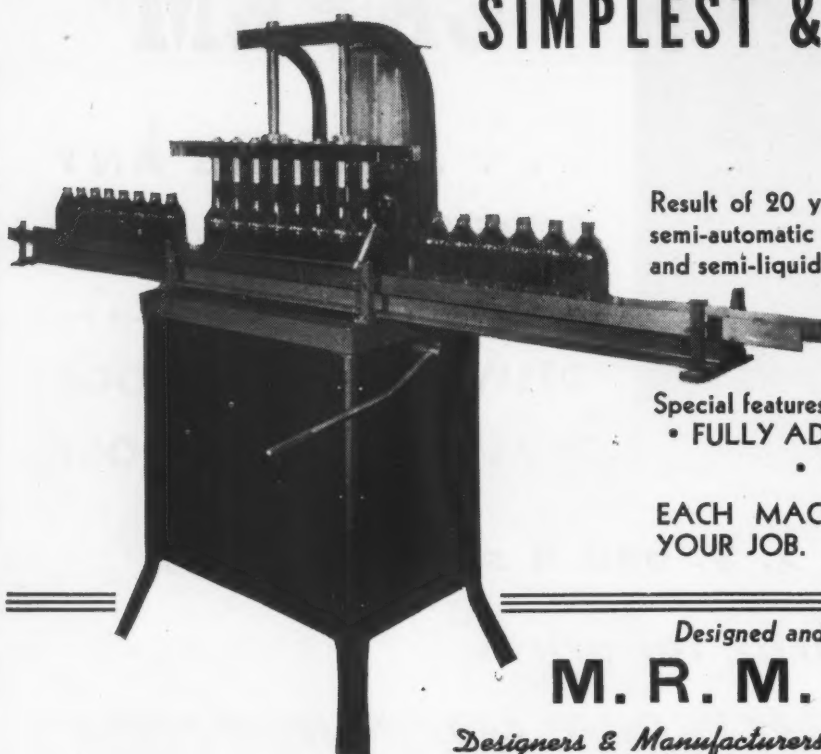
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One user writes "We were able to bottle and label 250,000 capsules in six hours with two girls operating the machine." This machine must be seen to be appreciated. Ten day free trial offer is your best proof of efficiency, money saving, accuracy, speed and durability.

This machine is guaranteed for one year.

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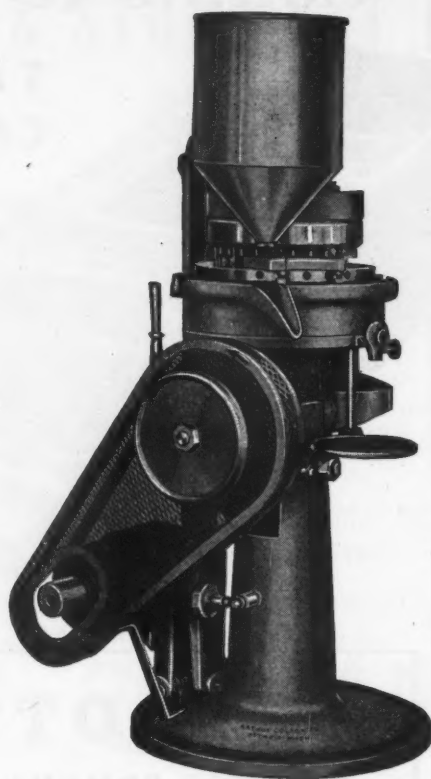
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ROTARY TABLET PRESS

New series 200-25 tablet machine embodies years of experience in building equipment, incorporates refinements giving an entirely new standard of performance.

Special features include new variable lower punch pull-down track plus micrometer cell adjustment minimizing punch and die wear and practically eliminating capping; solid steel tie bar; centrally located main drive shaft; lower center of gravity. Range of operating speeds is provided by built-in variable speed drive. Power transmitted through lever operated disk clutch. Special drive materially reduces power consumption. Standard speed motor. Capacity per minute: 300-800 tablets. Diameter of tablet $3/16"$ to $5/8"$, maximum depth of cell: $11/16"$. Floor space: 30' X 36", height: 60", net weight: 1025 lbs.

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A MODIFIED "HOT MELT" DELIVERED AS A SOLID

Liquefies at 165 deg. F. May be thinned with hot water.
Can be so treated that deposits become non-remeltable.

Has inherent flexibility and complete resistance to oils, greases, alcohol, turpentine, naphtha, other organic solvents, oxygen and other gases.

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No priority required.

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Completely Equipped Two Chicago Plants

Drugs - Cosmetics - Liquids

Manufactured, Bottled, Labeled to your
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Made and packed in cellophane, glass,
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Equipped to assemble radios, cameras,
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Our merchandising and design experts are at your service—ready to help you in the creation and production of labels, box wraps and other packaging material, in beautiful, natural color.

Send for our new book on advertising material—"The Selling Power of FULL Color."

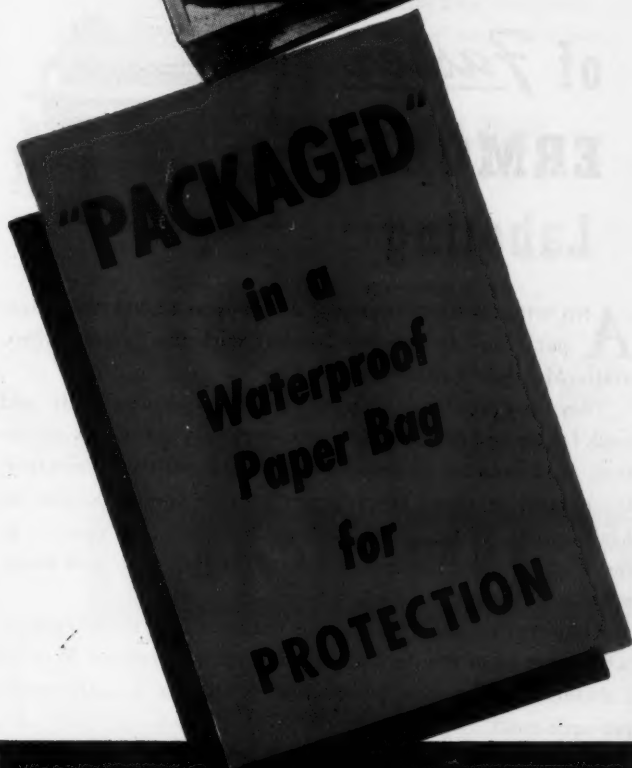
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Labels • Box Wraps • Seed Packets
Folding Boxes • Merchandise Envelopes and
Cards • Advertising Material

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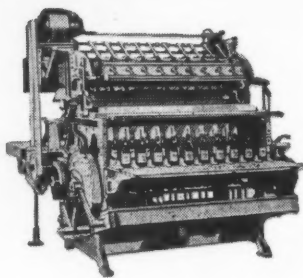
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YOUR COUNTING MACHINE CLICKS OFF THE STORY...



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AND WHAT A SUCCESS STORY! As many as 12,000 containers per hour zip by your counter with the Ermold Automatic Multiple Labeler on the job.

This long-wearing, heavy-duty labeler applies body and neck labels and foil, too, in *one* completely automatic operation. And because of Ermold's exclusive multiple principle, it operates at slow, 20-cycle per minute speed, despite its high output. Think of the savings that can bring you . . . in fewer shutdowns, lessened breakage, lower power and maintenance expenses.

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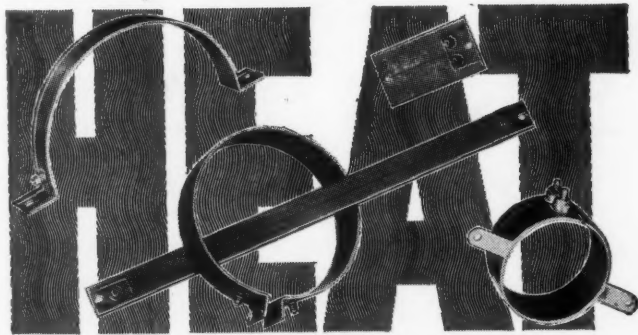
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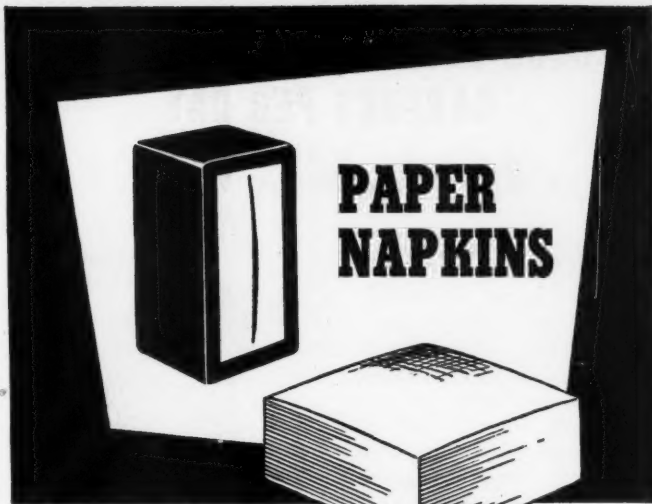
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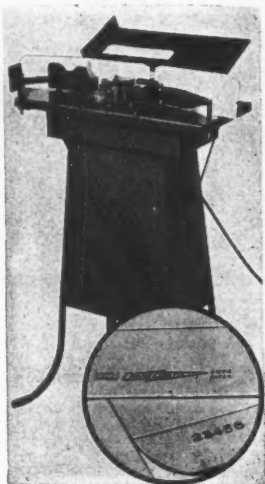
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CODE DATE 100,000 OR MORE CARTONS PER DAY

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**SEALING
TAPES**



In "Red Streak" Sealing Tapes you find a combination of good paper, good glue and plenty of it—use "Red Streak" and end your sealing problems.

Ask your jobber
for details, samples,
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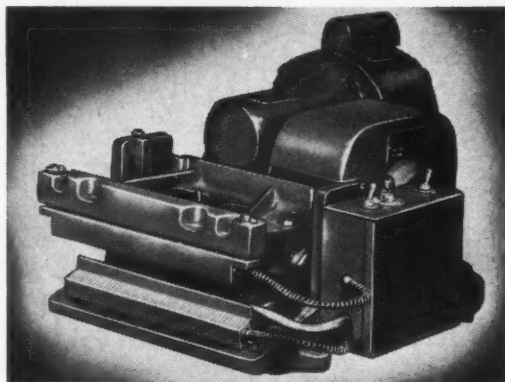


"Red
SEALING

Streak"
TAPES

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Heat Sealer



Wrapade automatic and semi-automatic heat seal machine handles foils, cellophane and other heat-sealed materials. It also applies correct amount of heat and pressure in proper time cycle to make secure and lasting sealing. Can be operated with perfect efficiency by unskilled labor. Applies uniform pressure, resulting in sift-proof, tamper-proof, dust-proof and sanitary packages without glue or staples. Saves its own costs in bag size, staples, glue, etc. Prices and further information on request.

Now in use by many leading packagers.

WRAPADE
MACHINE COMPANY, INC.

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Season's Greetings

*TO ALL our customers and
friends we send sincere
Holiday Greetings and best
wishes for a happy, healthy
and prosperous New Year.*

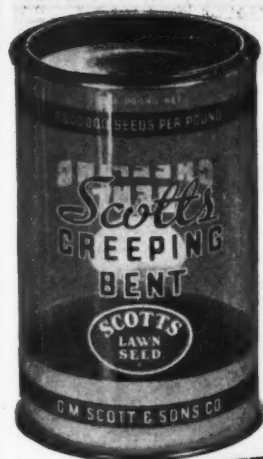
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BOXES, CANS
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Fine for packing candy, nuts, fruit-cake, bakery products, seeds, novelties, jewelry, toiletries, etc., etc.

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CATALOGUE



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The post war Milgate Line of papers is being built up eventually to include all types of cloths, acetates, foils, boards, glassines, cellophanes and papers, "hot-melt" coated and/or laminated, as well as aniline printed if desired.

About six Milgate Line papers are now available for immediate shipment. These include "Astex," an industrial waterproof wrapping; "Silver-glas," a novelty decorative sheet; "Milgate Gift Wrap," an aniline printed gift wrapping in thirteen designs—and "Sheencote," a high gloss, water and soil proof cover paper.

Send us your inquiries...we will supply you with samples and price lists of the present line. New Milgate papers will be coming through regularly...samples and prices of all new items as the line is expanded will be in your hands promptly.

Make inquiries now...it will be to your interest to get your name on our list.

The Milgate
LINE

PACKAGING DIVISION
E. W. Twitchell Incorporated
784 Public Ledger Bldg., Philadelphia 6, Pa.



When a quality product is set before the buying public that quality must be reflected in the outside appearance of the package as well as in the attractiveness of lithographed window and counter displays or other advertising mediums.

The highly skilled craftsmen of our organization take great pride in producing only the finest in lithography, with the most modern in equipment.

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Veteran Desires Position: PRODUCTION MAN, 32, Food, Drugs, Cosmetics experience. Handle Personnel, Scheduling, Set Up Assembly Lines, Production Control, Improve Packaging Methods. Box 376, Modern Packaging.

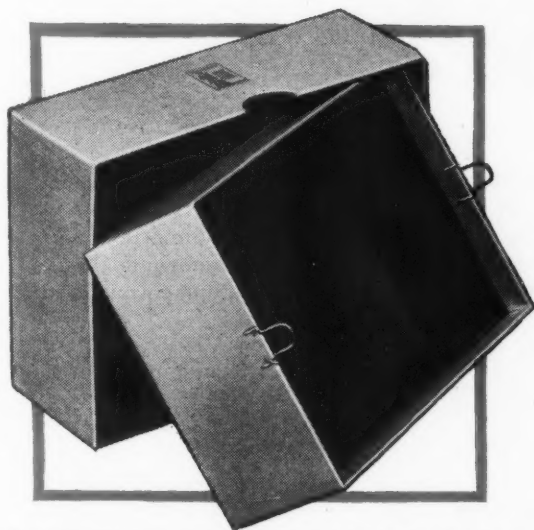
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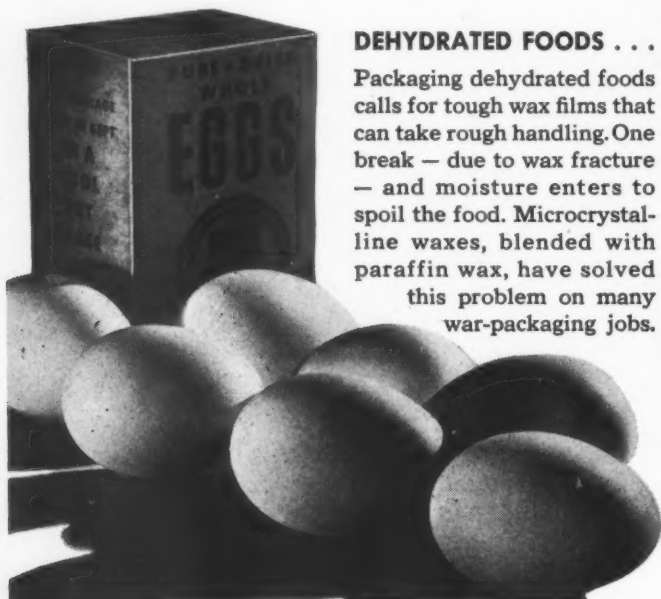
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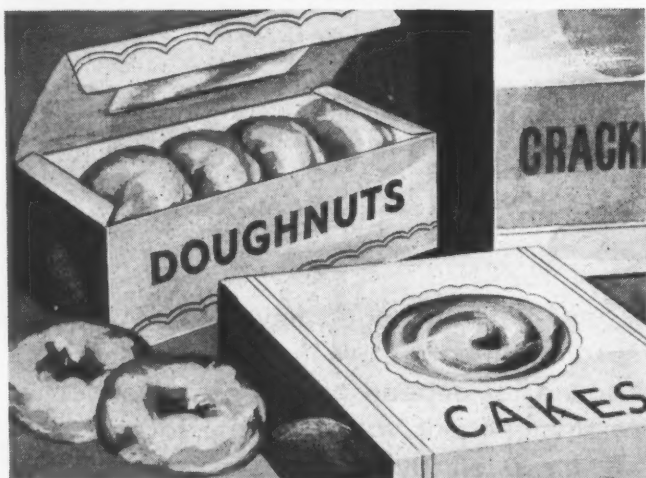
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MODERN PACKAGING
BRESKIN PUBLISHING COMPANY
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VUEPAK

...it's vitamin "see" for your sales!



To put new vitality into your sales, put your product into a Vuepak* package... *let the buyer SEE it!*

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2. **In what form is Vuepak available?** In sheets up to 30" wide, and in continuous rolls 30" wide up to 1000 ft. long, depending upon thickness.
3. **In what thicknesses is it ordinarily available?** In six standard gauges 0.005" to 0.015".
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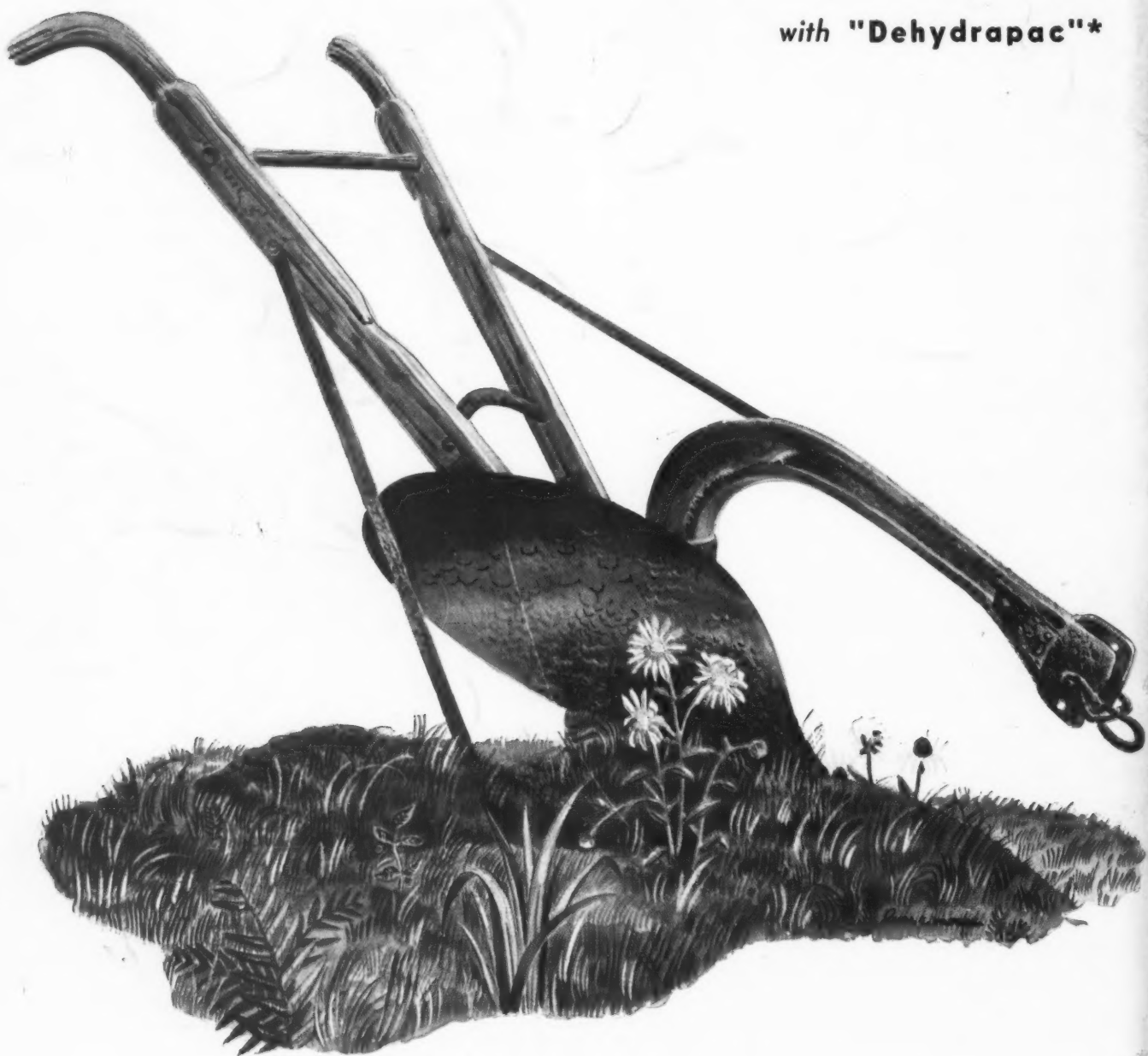


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